

=> fil reg

FILE 'REGISTRY' ENTERED AT 12:02:06 ON 20 MAR 2009

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2009 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 18 MAR 2009 HIGHEST RN 1123341-06-9

DICTIONARY FILE UPDATES: 18 MAR 2009 HIGHEST RN 1123341-06-9

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 9, 2009.

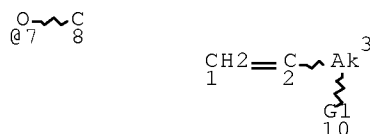
Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stdoc/properties.html>

=> d que stat 139

L3 STR



VAR G1=X/7

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

GGCAT IS SAT AT 3

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE

L4 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

March 20, 2009

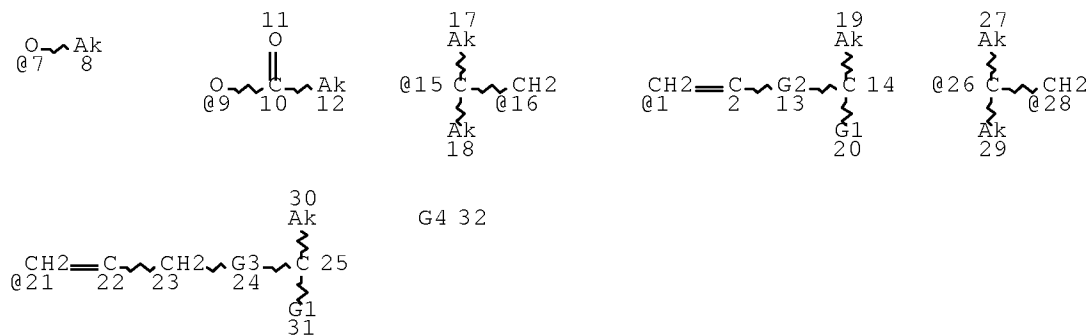
10/559,779

2

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 2

STEREO ATTRIBUTES: NONE

L5 SCR 1992 OR 2021 OR 2016 OR 2026 OR 2043 OR 1838
L6 29603 SEA FILE=REGISTRY SSS FUL L3 NOT L4 NOT L5
L37 STR



VAR G1=X/7/9
REP G2=(1-2) 15-2 16-14
REP G3=(0-2) 26-23 28-25
VAR G4=1/21

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 8
CONNECT IS E1 RC AT 12
CONNECT IS E1 RC AT 17
CONNECT IS E1 RC AT 18
CONNECT IS E1 RC AT 19
CONNECT IS E1 RC AT 27
CONNECT IS E1 RC AT 29
CONNECT IS E1 RC AT 30

DEFAULT MLEVEL IS ATOM

GGCAT IS SAT AT 8
GGCAT IS SAT AT 12
GGCAT IS SAT AT 17
GGCAT IS SAT AT 18
GGCAT IS SAT AT 19
GGCAT IS SAT AT 27
GGCAT IS SAT AT 29
GGCAT IS SAT AT 30

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 28

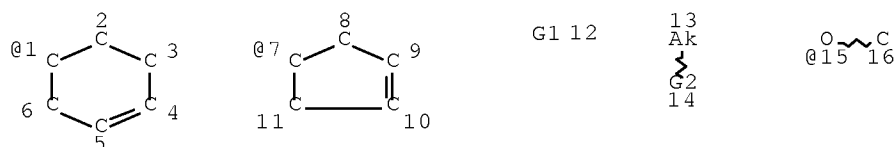
STEREO ATTRIBUTES: NONE

L39 237 SEA FILE=REGISTRY SUB=L6 SSS FUL L37

100.0% PROCESSED 29603 ITERATIONS
SEARCH TIME: 00.00.39

237 ANSWERS

=> d que stat 127
L20 STR



VAR G1=1/7

VAR G2=X/15

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

GGCAT IS SAT AT 13

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I

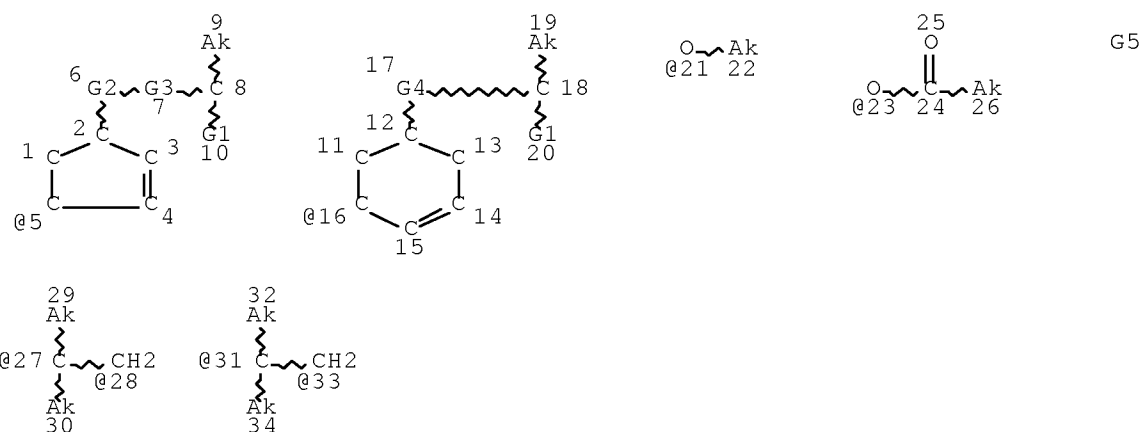
NUMBER OF NODES IS 16

STEREO ATTRIBUTES: NONE

L22 SCR 1992 OR 2021 OR 2016 OR 2026

L24 41607 SEA FILE=REGISTRY SSS FUL L20 NOT L22

L25 STR



Page 1-A

35

Page 1-B

VAR G1=21/23

REP G2=(0-1) CH2

REP G3=(0-3) 27-6 28-8

REP G4=(0-3) 31-12 33-18

VAR G5=5/16

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 9

CONNECT IS E1 RC AT 19

CONNECT IS E1 RC AT 22

CONNECT IS E1 RC AT 26

CONNECT IS E1 RC AT 29

CONNECT IS E1 RC AT 30

CONNECT IS E1 RC AT 32

March 20, 2009

10/559,779

4

CONNECT IS E1 RC AT 34
DEFAULT MLEVEL IS ATOM
GGCAT IS SAT AT 9
GGCAT IS SAT AT 19
GGCAT IS SAT AT 22
GGCAT IS SAT AT 26
GGCAT IS SAT AT 29
GGCAT IS SAT AT 30
GGCAT IS SAT AT 32
GGCAT IS SAT AT 34
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 35

STEREO ATTRIBUTES: NONE
L27 362 SEA FILE=REGISTRY SUB=L24 SSS FUL L25

100.0% PROCESSED 41607 ITERATIONS 362 ANSWERS
SEARCH TIME: 00.00.01

=> d his

(FILE 'HOME' ENTERED AT 10:59:30 ON 20 MAR 2009)

FILE 'HCAPLUS' ENTERED AT 10:59:39 ON 20 MAR 2009
L1 1 S 2004:1154740/AN

FILE 'REGISTRY' ENTERED AT 11:00:00 ON 20 MAR 2009
ACT HUH779AU/A

L2 14 SEA FILE=REGISTRY ABB=ON PLU=ON (10294-34-5/BI OR 110-8
ACT HUH779/A

L3 STR
L4 STR
L5 SCR 1992 OR 2021 OR 2016 OR 2026 OR 2043 OR 1838
L6 29603 SEA FILE=REGISTRY SSS FUL L3 NOT L4 NOT L5

FILE 'HCAPLUS' ENTERED AT 11:11:51 ON 20 MAR 2009
L7 876 S L6(L)CAT/RL
L8 QUE POLYISOBUT?
L9 18 S L7 AND L8
L10 17 S L9 NOT L1

FILE 'LREGISTRY' ENTERED AT 11:13:46 ON 20 MAR 2009
L11 STR L3

FILE 'REGISTRY' ENTERED AT 11:21:57 ON 20 MAR 2009
L12 50 S L11 SSS SAM SUB=L6
L13 STR L11
L14 6 S L13 SSS SAM SUB=L6
L15 109 S L13 SSS FUL SUB=L6
SAV L15 HUH779S1/A

FILE 'HCAPLUS' ENTERED AT 11:25:36 ON 20 MAR 2009

L16 237 S L15
L17 3 S L7 AND L16

FILE 'LREGISTRY' ENTERED AT 11:34:45 ON 20 MAR 2009
L18 STR

FILE 'REGISTRY' ENTERED AT 11:37:24 ON 20 MAR 2009
L19 50 S L18
L20 STR L18
L21 50 S L20
L22 SCR 1992 OR 2021 OR 2016 OR 2026
L23 50 S L20 NOT L22
L24 41607 S L20 NOT L22 FUL
SAV TEMP L24 HUH779A/A

FILE 'LREGISTRY' ENTERED AT 11:43:24 ON 20 MAR 2009
L25 STR

FILE 'REGISTRY' ENTERED AT 11:52:40 ON 20 MAR 2009
L26 12 S L25 SSS SAM SUB=L24
L27 362 S L25 SSS FUL SUB=L24
SAV L27 HUH779S2/A

FILE 'HCAPLUS' ENTERED AT 11:53:31 ON 20 MAR 2009
L28 2011 S L27
L29 QUE CAT# OR CATALYST?
L30 46 S L16 AND L29
L31 QUE LEWIS(N)ACID?
L32 5 S L30 AND L31
L33 8 S L17 OR L32
L34 135 S L28 AND L29
L35 5 S L34 AND L31
L36 0 S L27(L)CAT/RL

FILE 'REGISTRY' ENTERED AT 11:57:19 ON 20 MAR 2009
L37 STR L13
L38 11 S L37 SSS SAM SUB=L6
L39 237 S L37 SSS FUL SUB=L6
SAV L39 HUH779S3/A

FILE 'HCAPLUS' ENTERED AT 11:59:15 ON 20 MAR 2009
L40 2 S L39(L)CAT/RL
L41 391 S L39
L42 91 S L41 AND L29
L43 14 S L42 AND L31
L44 17 S L33 OR L43

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 12:02:56 ON 20 MAR 2009
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications.

The CA Lexicon is the copyrighted intellectual property of the the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 20 Mar 2009 VOL 150 ISS 13
FILE LAST UPDATED: 19 Mar 2009 (20090319/ED)

HCAplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2008.

CAS Information Use Policies apply and are available at:

<http://www.cas.org/legal/infopolicy.html>

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d ibib abs hitstr hitind l44 1-17

L44 ANSWER 1 OF 17 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2008:1525040 HCAPLUS Full-text

DOCUMENT NUMBER: 150:213601

TITLE: Lewis acid catalyst

free electrophilic alkylation of silicon-capped
 π donors in 1,1,1,3,3,3-hexafluoro-2-propanol

AUTHOR(S): Ratnikov, Maxim O.; Tumanov, Vasily V.; Smit,
William A.

CORPORATE SOURCE: N. D. Zelinsky Institute of Organic Chemistry,
Moscow, 119991, Russia

SOURCE: Angewandte Chemie, International Edition (2008),
47(50), 9739-9742

CODEN: ACIEF5; ISSN: 1433-7851

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A diverse range of electrophilic addition reactions, conventionally carried out using Lewis acid catalysts, have been performed in electrophilic media without acidic reagents. 1,1,1,3,3,3-Hexafluoro-2-propanol (HFIP) acts as an efficient hydrogen-bond donor and highly polar solvent for a wide range of substrates in reactions with Si-capped π donors.

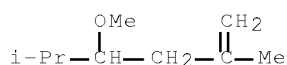
IT 68105-14-6P 152684-80-5P

RL: SPN (Synthetic preparation); PREP (Preparation)

(1,1,1,3,3,3-hexafluoro-2-propanol-mediated electrophilic
alkylation of silicon-capped π donors by acetals and carbonyl
comps. in the absence of Lewis acid
catalysts)

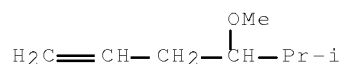
RN 68105-14-6 HCAPLUS

CN 1-Hexene, 4-methoxy-2,5-dimethyl- (CA INDEX NAME)



RN 152684-80-5 HCAPLUS

CN 1-Hexene, 4-methoxy-5-methyl- (CA INDEX NAME)



CC 21-2 (General Organic Chemistry)

IT Acetals

Aldehydes, reactions

Carbonyl compounds (organic), reactions

Ketones, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(1,1,1,3,3,3-hexafluoro-2-propanol-mediated electrophilic alkylation of silicon-capped π donors by acetals and carbonyl compds. in the absence of Lewis acid catalysts)

IT Alkylation

(electrophilic; 1,1,1,3,3,3-hexafluoro-2-propanol-mediated electrophilic alkylation of silicon-capped π donors by acetals and carbonyl compds. in the absence of Lewis acid catalysts)

IT Silanes

RL: RCT (Reactant); RACT (Reactant or reagent)

(unsatd.; 1,1,1,3,3,3-hexafluoro-2-propanol-mediated electrophilic alkylation of silicon-capped π donors by acetals and carbonyl compds. in the absence of Lewis acid catalysts)

IT Electron donors

(π -donors; 1,1,1,3,3,3-hexafluoro-2-propanol-mediated electrophilic alkylation of silicon-capped π donors by acetals and carbonyl compds. in the absence of Lewis acid catalysts)

IT 111874-55-6P 165059-61-0P

RL: BYP (Byproduct); PREP (Preparation)

(1,1,1,3,3,3-hexafluoro-2-propanol-mediated electrophilic alkylation of silicon-capped π donors by acetals and carbonyl compds. in the absence of Lewis acid catalysts)

IT 920-66-1, 1,1,1,3,3,3-Hexafluoro-2-propanol

RL: NUU (Other use, unclassified); RGT (Reagent); RACT (Reactant or reagent); USES (Uses)

(1,1,1,3,3,3-hexafluoro-2-propanol-mediated electrophilic alkylation of silicon-capped π donors by acetals and carbonyl compds. in the absence of Lewis acid catalysts)

IT 78-84-2, Isobutanal 78-94-4, Methyl vinyl ketone, reactions
 96-33-3, Methyl acrylate 100-42-5, Styrene, reactions 123-11-5,
 Anisic aldehyde, reactions 762-72-1, Allyltrimethylsilane
 930-30-3, 2-Cyclopentenone 931-94-2, Cyclopentanone dimethyl
 acetal 933-01-7, p-Chlorophenylsulfenyl chloride 1125-88-8,
 Benzaldehyde dimethyl acetal 1833-53-0, 2-Trimethylsilyloxypropene
 6651-36-1, 1-Trimethylsilyloxycyclohexene 13735-81-4,
 α -Trimethylsilyloxystyrene 17510-46-2,
 3,3-Dimethyl-2-trimethylsilyloxy-1-butene 18292-38-1,
 Methallyltrimethylsilane 19980-43-9,
 1-(Trimethylsilyloxy)cyclopentene 31469-15-5 41632-89-7
 RL: RCT (Reactant); RACT (Reactant or reagent)

(1,1,1,3,3,3-hexafluoro-2-propanol-mediated electrophilic
alkylation of silicon-capped π donors by acetals and carbonyl
comps. in the absence of Lewis acid
catalysts)

IT 1489-27-6P, 2-(3-Oxobutyl)cyclopentanone 1501-04-8P, Methyl
5-oxo-5-phenylpentanoate 13051-32-6P, Dimethyl
2,2-dimethylpentanedioate 22039-97-0P ~~68105-14-6P~~
74209-73-7P 74209-74-8P 75359-63-6P 86289-92-1P, Methyl
2,2-dimethyl-5-oxohexanoate 89597-27-3P 111874-54-5P
134111-20-9P ~~152684-80-5P~~ 761411-20-5P 1114963-11-9P
1114963-15-3P 1114963-16-4P 1114963-18-6P

RL: SPN (Synthetic preparation); PREP (Preparation)

(1,1,1,3,3,3-hexafluoro-2-propanol-mediated electrophilic
alkylation of silicon-capped π donors by acetals and carbonyl
comps. in the absence of Lewis acid
catalysts)

REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L44 ANSWER 2 OF 17 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2008:285253 HCAPLUS Full-text

DOCUMENT NUMBER: 148:309625

TITLE: Arborescent polymers based on at least one
inimer and isoolefin that have been
end-functionalized with a polymer or copolymer
having a low glass transition temperature

INVENTOR(S): Kaszas, Gabor; Puskas, Judit; Kulbaba, Kevin;
Nelson, Robert Lloyd

PATENT ASSIGNEE(S): The University of Akron, USA; Lanxess, Inc.

SOURCE: PCT Int. Appl., 76pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
WO 2008027589	A2	20080306	WO 2007-US19280	200708 31

WO 2008027589 A3 20080424

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG,
ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS,
JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU,
LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO,
NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL,
SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN,
ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,
IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK,
TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN,
TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG,
ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA

PRIORITY APPLN. INFO.: US 2006-841757P P

200609

01

AB Disclosed is an arborescent polymer comprising: an elastomeric polymer portion having two or more branching points, the arborescent elastomeric polymer block having a low glass transition temperature (Tg), and one or more end-functionalized portions, wherein one or more end-functionalized portions terminate at least one or two or more branches of the arborescent elastomeric polymer portion of the end-functionalized arborescent polymer. In one embodiment, the present invention relates to arborescent polymers formed from at least one inimer and at least one isoolefin that have been end-functionalized with a polymer or copolymer having a low glass transition temperature (Tg), and to a process for making such arborescent polymers. In another embodiment, the present invention relates to arborescent polymers formed from at least one inimer and at least one isoolefin that have been end-functionalized with less than about 5 weight% end blocks derived from a polymer or copolymer having a high glass transition temperature (Tg), and to a process for making such arborescent polymers. In an example of the invention 0.35 g of p-methoxycumylstyrene, 900 cm³ hexane, 600 cm³ Me chloride, 2 cm³ 2,6-di-tert-butylpyridine and 240 cm³ isobutylene were added to a reactor, polymerization was started at -95° by addition of 6 cm³ of TiCl₄, after 2 h of polymerization a mixture of 236 cm³ isoprene and 150 cm³ Me chloride, 150 cm³ hexane and a small amount of 2,6-di-tert-butylpyridine were added, and the polymerization was continued for another 30 min, before terminating it by adding methanol and NaOH to the mixture, after Me chloride evaporation, washing and isolation of the polymer, the dried weight of the polymer was 164.7 g. Polymers obtained in a similar way were mixed with carbon black, and optionally with a vulcanization agent, and tested as such and with the filler in comparison with regular butyl rubber.

IT 69078-25-7DP, arborescent polymers/synthetic rubbers

477350-05-3DP, arborescent polymers/synthetic rubbers

477350-08-6DP, arborescent polymers/synthetic rubbers

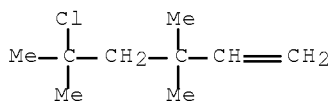
477350-12-2DP, arborescent polymers/synthetic rubbers

RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)

(arborescent polymers based on branched functionalized styrene inimer and isoolefins, like isobutylene)

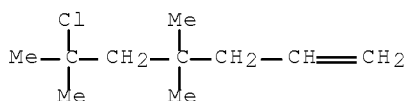
RN 69078-25-7 HCAPLUS

CN 1-Hexene, 5-chloro-3,3,5-trimethyl- (CA INDEX NAME)



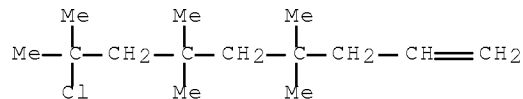
RN 477350-05-3 HCAPLUS

CN 1-Heptene, 6-chloro-4,4,6-trimethyl- (CA INDEX NAME)



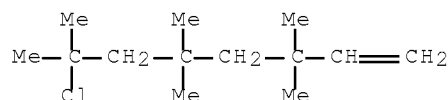
RN 477350-08-6 HCAPLUS

CN 1-Nonene, 8-chloro-4,4,6,6,8-pentamethyl- (CA INDEX NAME)



RN 477350-12-2 HCAPLUS

CN 1-Octene, 7-chloro-3,3,5,5,7-pentamethyl- (CA INDEX NAME)



CC 39-4 (Synthetic Elastomers and Natural Rubber)

IT Polymerization catalysts

(Lewis acid, halides; arborescent polymers

based on branched functionalized styrene inimer and isoolefins,
like isobutylene)

IT 78-79-5DP, arborescent polymers/synthetic rubbers 100-42-5DP,
arborescent polymers/synthetic rubbers 100-42-5DP, derivs.,
arborescent polymers/synthetic rubbers 106-99-0DP, 1,3-Butadiene,
arborescent polymers/synthetic rubbers 563-46-2DP, arborescent
polymers/synthetic rubbers 592-46-1DP, 2,4-Hexadiene, arborescent
polymers/synthetic rubbers 763-29-1DP, arborescent
polymers/synthetic rubbers 763-30-4DP, arborescent
polymers/synthetic rubbers 764-13-6DP, arborescent
polymers/synthetic rubbers 1118-58-7DP, arborescent
polymers/synthetic rubbers 2622-21-1DP, arborescent
polymers/synthetic rubbers 3049-88-5DP, arborescent
polymers/synthetic rubbers 4049-81-4DP, arborescent
polymers/synthetic rubbers 4549-74-0DP, arborescent
polymers/synthetic rubbers 5732-01-4DP, 1,3-Butadiene,
2-neopentyl-, arborescent polymers/synthetic rubbers 13643-06-6DP,
arborescent polymers/synthetic rubbers 25924-78-1DP, Piperyline,
arborescent polymers/synthetic rubbers 26519-91-5DP,
Methylcyclopentadiene, arborescent polymers/synthetic rubbers
29797-09-9DP, Cyclohexadiene, arborescent polymers/synthetic rubbers
57908-07-3DP, arborescent polymers/synthetic rubbers
~~69078-25-7DP~~, arborescent polymers/synthetic rubbers
140220-46-8DP, arborescent polymers/synthetic rubbers
140220-95-7DP, arborescent polymers/synthetic rubbers
173932-32-6DP, arborescent polymers/synthetic rubbers
477350-02-0DP, arborescent polymers/synthetic rubbers
477350-03-1DP, arborescent polymers/synthetic rubbers
477350-04-2DP, arborescent polymers/synthetic rubbers
~~477350-05-3DP~~, arborescent polymers/synthetic rubbers
477350-06-4DP, arborescent polymers/synthetic rubbers
477350-07-5DP, arborescent polymers/synthetic rubbers
~~477350-08-6DP~~, arborescent polymers/synthetic rubbers
477350-09-7DP, arborescent polymers/synthetic rubbers
477350-10-0DP, arborescent polymers/synthetic rubbers

477350-11-1DP, arborescent polymers/synthetic rubbers
~~477350-12-2DP~~, arborescent polymers/synthetic rubbers
477350-13-3DP, arborescent polymers/synthetic rubbers
RL: IMF (Industrial manufacture); PEP (Physical, engineering or
chemical process); TEM (Technical or engineered material use); PREP
(Preparation); PROC (Process); USES (Uses)
(arborescent polymers based on branched functionalized styrene
inimer and isoolefins, like isobutylene)

L44 ANSWER 3 OF 17 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2007:1380460 HCAPLUS Full-text

DOCUMENT NUMBER: 148:35160

TITLE: Material and process for precisely controlled
polymeric coatings

INVENTOR(S): Huang, Xueying

PATENT ASSIGNEE(S): Sepax Technologies, Inc., USA

SOURCE: U.S., 12pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
US 7303821	B1	20071204	US 2004-887629	200407 10
PRIORITY APPLN. INFO.:			US 2003-489786P	P 200307 24

AB A chemical coated surface comprises: (a) a support surface; (b) a coupling agent; (c) a chemical surface coating comprising at least one block copolymer prepared from addition monomers; wherein the coupling agent is a polymer or an oligomer comprising of: (i) at least two functional groups capable of binding onto the support surface; (ii) at least two functional groups capable of generating a living radical for initiating polymerization of addition monomers; and wherein the coupling agent has a hydrocarbon backbone. The surface typically comprises of block copolymers prepared from addition monomers selected from a group consisting of acrylates and its derivs., methacrylates and its derivs., styrene and its derivs., acrylamide, methacrylamide, dimethacrylamide, N-monosubstituted acrylamide, N-monosubstituted methacrylamide, N,N-disubstituted acrylamide, N,N-bissubstituted methacrylamide, vinyl acetate, vinyl pyrrolidone, vinyl ether, acrylic acid and methacrylic acid. This invention also provides a chemical process for making a chemical coated surface for the electrophoretic separation application.

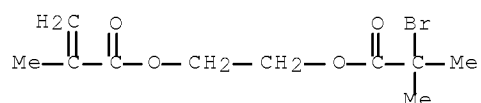
IT 213453-08-8P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP
(Preparation); USES (Uses)

(initiator; material and process for precisely controlled
polymeric coatings)

RN 213453-08-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-(2-bromo-2-methyl-1-oxopropoxy)ethyl
ester (CA INDEX NAME)

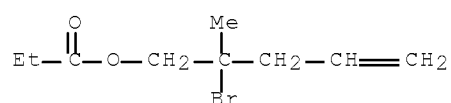


IT 959129-43-2P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(material and process for precisely controlled polymeric
coatings)

RN 959129-43-2 HCAPLUS

CN 4-Penten-1-ol, 2-bromo-2-methyl-, 1-propanoate (CA INDEX NAME)

INCL 428446000; 526081000; 526087000; 526091000; 526109000; 526118000;
526201000

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 79, 80

IT 213453-08-8P 707471-11-2P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP
(Preparation); USES (Uses)
(initiator; material and process for precisely controlled
polymeric coatings)

IT 959129-43-2P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(material and process for precisely controlled polymeric
coatings)

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L44 ANSWER 4 OF 17 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:479523 HCAPLUS Full-text

DOCUMENT NUMBER: 141:123433

TITLE: Allylation of acetals and ketals with
allyltrimethylsilane catalyzed by the mixed
Lewis acid system AlBr₃/CuBr

AUTHOR(S): Jung, Michael E.; Maderna, Andreas

CORPORATE SOURCE: Department of Chemistry and Biochemistry, Los
Angeles, University of California, Los Angeles,
CA, 90095-1569, USA

SOURCE: Tetrahedron Letters (2004), 45(27), 5301-5304
CODEN: TELEAY; ISSN: 0040-4039

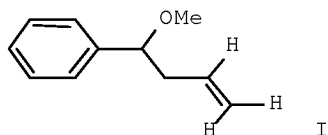
PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:123433

GI



AB The synthesis of homoallyl ethers, e.g., I, from various acetals and a cyclic ketal with allyltrimethylsilane catalyzed by aluminum bromide in the presence of trimethylaluminum as a desiccant is described. The addition of a catalytic amount of copper(I) bromide accelerated the allylation reactions to afford the homoallyl ether derivs. in good to excellent yield.

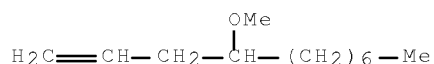
IT 105750-93-4P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of homoallyl ethers via allylation of acetals and cyclohexanone di-Me ketal with allyltrimethylsilane catalyzed by mixed Lewis acid system aluminum tribromide-trimethylaluminum-copper bromide)

RN 105750-93-4 HCAPLUS

CN 1-Undecene, 4-methoxy- (CA INDEX NAME)



CC 25-9 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

ST acetal allyltrimethylsilane allylation aluminum tribromide copper bromide catalyst; homoallylic ether prepn; copper bromide allylation catalyst; aluminum tribromide allylation catalyst

IT Allylation

Allylation catalysts

(preparation of homoallyl ethers via allylation of acetals and cyclohexanone di-Me ketal with allyltrimethylsilane catalyzed by mixed Lewis acid system aluminum tribromide-trimethylaluminum-copper bromide)

IT Acetals

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of homoallyl ethers via allylation of acetals and cyclohexanone di-Me ketal with allyltrimethylsilane catalyzed by mixed Lewis acid system aluminum tribromide-trimethylaluminum-copper bromide)

IT Ethers, preparation

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of homoallyl ethers via allylation of acetals and cyclohexanone di-Me ketal with allyltrimethylsilane catalyzed by mixed Lewis acid system aluminum tribromide-trimethylaluminum-copper bromide)

IT 75-24-1, Trimethylaluminum 7727-15-3, Aluminum tribromide

7787-70-4, Copper(I) bromide

RL: CAT (Catalyst use); USES (Uses)

(preparation of homoallyl ethers via allylation of acetals and cyclohexanone di-Me ketal with allyltrimethylsilane catalyzed by mixed Lewis acid system aluminum tribromide-trimethylaluminum-copper bromide)

tribromide-trimethylaluminum-copper bromide)

IT 101-48-4, Phenylacetaldehyde dimethyl acetal 762-72-1,
Allyltrimethylsilane 933-40-4, Cyclohexanone dimethyl ketal
1125-88-8, Benzaldehyde dimethyl acetal 2186-92-7,
4-Methoxybenzaldehyde dimethyl acetal 7252-83-7, Bromoacetaldehyde
dimethyl acetal 10022-28-3, Octanal dimethyl acetal 14618-78-1
24856-58-4, 4-Bromobenzaldehyde dimethyl acetal
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of homoallyl ethers via allylation of acetals and
cyclohexanone di-Me ketal with allyltrimethylsilane catalyzed by
mixed Lewis acid system aluminum
tribromide-trimethylaluminum-copper bromide)

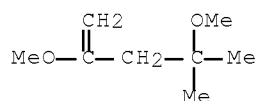
IT 22039-97-0P 60753-94-8P 77920-96-8P ~~105750-93-4P~~
111874-57-8P 114095-76-0P 124389-38-4P 724701-62-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of homoallyl ethers via allylation of acetals and
cyclohexanone di-Me ketal with allyltrimethylsilane catalyzed by
mixed Lewis acid system aluminum
tribromide-trimethylaluminum-copper bromide)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L44 ANSWER 5 OF 17 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2003:825944 HCAPLUS Full-text
DOCUMENT NUMBER: 140:78789
TITLE: Saucy-Marbet ketonization in a continuous
fixed-bed catalytic reactor
AUTHOR(S): Frauchiger, Simon; Baiker, Alfons
CORPORATE SOURCE: Institute for Chemical and Bioengineering, Swiss
Federal Institute of Technology, ETH
Hoenggerberg, Zurich, CH-8093, Switz.
SOURCE: Applied Catalysis, A: General (2003), 253(1),
33-48
CODEN: ACAGE4; ISSN: 0926-860X
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:78789

AB Saucy-Marbet ketonizations of two unsatd. alcs., 3,7-dimethyl-oct-6-en-1-yn-3-ol (dehydrolinalool (DLL)) and 2-methyl-3-butyn-2-ol (MB) with 2-methoxypropene (MP), were studied in a continuous fixed-bed reactor containing a com. alkyl sulfonic acid polysiloxane catalyst, Deloxan ASP I/9, Degussa, a condensate of propyl-3-sulfonic acid-siloxane and SiO₂. The solid acid catalyst showed an initial transient period of several hours until stable operation was reached. Similar products were observed as in corresponding homogeneous catalytic reactions indicating similar reaction pathways. However, the heterogeneous catalytic reactions showed lower selectivity to the desired products than the corresponding homogeneous reactions reported in the literature. This outcome is traced to the complex transformation the unsatd. ether MP undergoes upon interaction with the surface of the solid acid catalyst. Furthermore, both Bronsted and Lewis-acid sites were present on the catalyst surface. These factors are the main reasons for the less efficient use of reactants observed in the heterogeneous catalytic reactions. A maximum yield of 54% to the desired product could be achieved in the heterogeneous catalytic ketonization of 3,7-dimethyl-oct-6-en-1-yn-3-ol and 45% for the 2-methyl-3-butyn-2-ol ketonization, resp. The studies indicate that the continuous ketonization in a fixed-bed reactor is feasible, but for tech. application, more selective acid catalysts are necessary to compete with the generally used homogeneous catalytic routes.

IT 191930-68-4P
 RL: BYP (Byproduct); PREP (Preparation)
 (conversion and selectivity of sulfonic acid polysiloxane/silica catalyst in Saucy-Marbet ketonizations of unsatd. alcs. in continuous fixed-bed reactor)
 RN 191930-68-4 HCAPLUS
 CN 1-Pentene, 2,4-dimethoxy-4-methyl- (CA INDEX NAME)



CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
 Section cross-reference(s): 67
 ST unsatd alc ketonization methoxypropene heterogeneous catalytic route; dimethyloctenynol ketonization alkylsulfonic acid polysiloxane silica catalyst
 IT Carbonylation catalysts
 (Saucy-Marbet, heterogeneous; conversion and selectivity of sulfonic acid polysiloxane/silica catalyst in Saucy-Marbet ketonizations of unsatd. alcs. in continuous fixed-bed reactor)
 IT Carbonylation
 (Saucy-Marbet; conversion and selectivity of sulfonic acid polysiloxane/silica catalyst in Saucy-Marbet ketonizations of unsatd. alcs. in continuous fixed-bed reactor)
 IT Lewis acidity
 (conversion and selectivity of sulfonic acid polysiloxane/silica catalyst in Saucy-Marbet ketonizations of unsatd. alcs. in continuous fixed-bed reactor)
 IT Reactors
 (fixed-bed; conversion and selectivity of sulfonic acid polysiloxane/silica catalyst in Saucy-Marbet ketonizations of unsatd. alcs. in continuous fixed-bed reactor)
 IT Polysiloxanes, uses
 RL: CAT (Catalyst use); USES (Uses)
 (propyl-3-sulfonic acid containing; conversion and selectivity of sulfonic acid polysiloxane/silica catalyst in Saucy-Marbet ketonizations of unsatd. alcs. in continuous fixed-bed reactor)
 IT 77-76-9P, 2,2-Dimethoxypropane 141-10-6P 53654-62-9P
 191930-68-4P
 RL: BYP (Byproduct); PREP (Preparation)
 (conversion and selectivity of sulfonic acid polysiloxane/silica catalyst in Saucy-Marbet ketonizations of unsatd. alcs. in continuous fixed-bed reactor)
 IT 7631-86-9, Silica, uses 640735-92-8, Deloxan ASP-I 9
 RL: CAT (Catalyst use); USES (Uses)
 (conversion and selectivity of sulfonic acid polysiloxane/silica catalyst in Saucy-Marbet ketonizations of unsatd. alcs. in continuous fixed-bed reactor)
 IT 115-19-5, 2-Methyl-3-butyn-2-ol 116-11-0 29171-20-8, 3,7-Dimethyl-oct-6-en-1-yn-3-ol
 RL: EPR (Engineering process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)

(conversion and selectivity of sulfonic acid polysiloxane/silica
catalyst in Saucy-Marbet ketonizations of unsatd. alcs.
in continuous fixed-bed reactor)

IT 1604-28-0P, 6-Methyl-3,5-heptadien-2-one 13837-60-0P,
2-Ethynyl-tetrahydro-2,6,6-trimethyl-2H-pyran 16647-01-1P,
6-Methyl-4,5-heptadien-2-one 16647-05-5P,
6,10-Dimethyl-4,5,9-undecatrien-2-one

RL: IMF (Industrial manufacture); PREP (Preparation)

(conversion and selectivity of sulfonic acid polysiloxane/silica
catalyst in Saucy-Marbet ketonizations of unsatd. alcs.
in continuous fixed-bed reactor)

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L44 ANSWER 6 OF 17 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:927482 HCAPLUS Full-text

DOCUMENT NUMBER: 138:5461

TITLE: Arborescent polyolefinic thermoplastic
elastomers and products therefrom

INVENTOR(S): Puskas, Judit E.; Paulo, Christophe; Antony,
Prince

PATENT ASSIGNEE(S): The University of Western Ontario, Can.

SOURCE: PCT Int. Appl., 46 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
WO 2002096967	A1	20021205	WO 2002-CA792	200205 29
W:				
AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,				
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,				
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,				
LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,				
NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,				
TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW				
RW:				
GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE,				
CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT,				
SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,				
SN, TD, TG				
CA 2446866	A1	20021205	CA 2002-2446866	200205 29
AU 2002302269	A1	20021209	AU 2002-302269	200205 29
AU 2002302269	B2	20071115		
US 20030065098	A1	20030403	US 2002-156767	200205 29
US 6747098	B2	20040608		
EP 1395622	A1	20040310	EP 2002-729729	200205 29

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

JP 2004526857 T 20040902 JP 2003-500146

200205
29

JP 4231777 B2 20090304
CN 1604923 A 20050406 CN 2002-811035

200205
29

PRIORITY APPLN. INFO.:

US 2001-293508P P

200105
29

WO 2002-CA792 W

200205
29

AB The present invention provides highly branched block copolymers comprising branched soft segments with a low Tg and hard segments with a high Tg or crystalline m.p. that exhibit thermoplastic elastomeric properties. More particularly the invention provides a highly branched block copolymer of a polyisooolefin and a polymonovinylidene arene characterized by having thermoplastic elastomeric properties wherein the aforesaid block copolymer comprises a highly branched polyisooolefin block and some of the branches of the aforesaid polyisooolefin block terminate in polymonovinylidene arene endblocks. Arborescent copolymers of isoolefins and monovinylidene arenes are prepared by (a) polymerizing an isoolefin (e.g., isobutylene) in the presence of at least one inimer (initiator-monomer) and a Lewis acid halide coiniciator, at -20 to -100° to produce an arborescent elastomeric branched polymer, the inimer including at least one group for (co)polymerizing in a cationic polymerization of the isoolefin and at least one group for initiating cationic polymerization of the isoolefin; and thereafter (b) adding a compound having an effective electron pair donor for improving blocking efficiency and adding a monovinylidene arene suitable for the production of the polyvinylidene plastic blocks; and (c) terminating the polymerization reaction after a selected period of time by addition of an effective nucleophile compound which terminates the polymerization reaction, the selected period of time being sufficiently long enough to ensure production of at least individual units of the arborescent branched block copolymer.

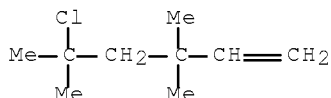
IT 69078-25-7, 5-Chloro-3,3,5-trimethyl-1-hexene
477350-05-3 477350-08-6 477350-12-2

RL: CAT (Catalyst use); USES (Uses)

(inimer; arborescent polyolefinic thermoplastic elastomers and products therefrom)

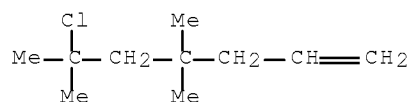
RN 69078-25-7 HCAPLUS

CN 1-Hexene, 5-chloro-3,3,5-trimethyl- (CA INDEX NAME)



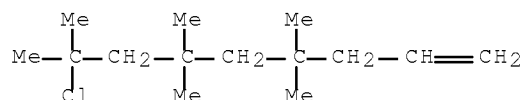
RN 477350-05-3 HCAPLUS

CN 1-Heptene, 6-chloro-4,4,6-trimethyl- (CA INDEX NAME)



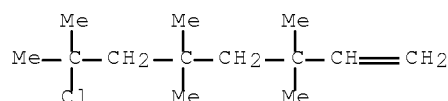
RN 477350-08-6 HCAPLUS

CN 1-Nonene, 8-chloro-4,4,6,6,8-pentamethyl- (CA INDEX NAME)



RN 477350-12-2 HCAPLUS

CN 1-Octene, 7-chloro-3,3,5,5,7-pentamethyl- (CA INDEX NAME)



IC ICM C08F297-00

ICS C08G083-00

CC 39-4 (Synthetic Elastomers and Natural Rubber)

Section cross-reference(s): 63

IT 3049-88-5 7005-39-2 57908-07-3 ~~69078-25-7~~,
5-Chloro-3,3,5-trimethyl-1-hexene 140220-46-8 140220-95-7
173932-32-6 477350-02-0 477350-03-1 477350-04-2
~~477350-05-3~~ 477350-06-4 477350-07-5 ~~477350-08-6~~
477350-09-7 477350-10-0, 5,6-Epoxy-3,3,5-trimethyl-1-hexene
477350-11-1 ~~477350-12-2~~ 477350-13-3

RL: CAT (Catalyst use); USES (Uses)

(inimer; arborescent polyolefinic thermoplastic elastomers and products therefrom)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L44 ANSWER 7 OF 17 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:742328 HCAPLUS Full-text

DOCUMENT NUMBER: 138:55759

TITLE: Combined Lewis acid
catalysts in shotgun process: a
convenient synthesis of the female sex pheromone
of the red-bollworm moth

AUTHOR(S): Nagano, Yoshifumi; Orita, Akihiro; Otera, Junzo

CORPORATE SOURCE: Department of Applied Chemistry, Okayama
University of Science, Ridai-cho, Okayama,
700-0005, Japan

SOURCE: Tetrahedron (2002), 58(41), 8211-8217
CODEN: TETRAB; ISSN: 0040-4020

PUBLISHER: Elsevier Science Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 138:55759

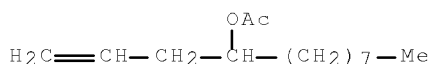
AB The combined use of Lewis acid and distannoxane catalysts gives rise to a new variant of the shotgun process. The unwanted acetylation of a secondary homoallyl alc. by the former catalyst is suppressed through hybridization with the latter resulting in one-pot aldehyde allylation and primary alc. acetylation of ω-hydroxy alkanal without protection/deprotection procedures.

IT 91743-86-1P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (a shotgun one-pot process catalyzed by Lewis acids and distannoxane for aldehyde allylation and primary alc. acetylation of a ω-hydroxy alkanal without protection/deprotection procedures, and its application to the synthesis of a pheromone)

RN 91743-86-1 HCAPLUS

CN 1-Dodecen-4-ol, 4-acetate (CA INDEX NAME)



CC 26-2 (Biomolecules and Their Synthetic Analogs)

ST pheromone synthesis; Lewis acid distannoxane combined catalyst acetylation allylation pheromone synthesis; shotgun one pot allylation acetylation process

IT Acetylation

Allylation

(a shotgun one-pot process catalyzed by Lewis acids and distannoxane for aldehyde allylation and primary alc. acetylation of a ω-hydroxy alkanal without protection/deprotection procedures, and its application to the synthesis of a pheromone)

IT Lewis acids

RL: CAT (Catalyst use); USES (Uses)

(a shotgun one-pot process catalyzed by Lewis acids and distannoxane for aldehyde allylation and primary alc. acetylation of a ω-hydroxy alkanal without protection/deprotection procedures, and its application to the synthesis of a pheromone)

IT 109-63-7, Boron trifluoride etherate 27607-77-8, Trimethylsilyl triflate 33194-92-2 34946-82-2 88189-03-1, Bismuth triflate 144026-79-9, Scandium triflate

RL: CAT (Catalyst use); USES (Uses)

(a shotgun one-pot process catalyzed by Lewis acids and distannoxane for aldehyde allylation and primary alc. acetylation of a ω-hydroxy alkanal without protection/deprotection procedures, and its application to the synthesis of a pheromone)

IT 111-87-5, 1-Octanol, reactions 124-19-6, Nonanal 7393-43-3, Tetraallyl tin 13019-22-2, 9-Decen-1-ol

RL: RCT (Reactant); RACT (Reactant or reagent)

(a shotgun one-pot process catalyzed by Lewis acids and distannoxane for aldehyde allylation and primary alc. acetylation of a ω-hydroxy alkanal without protection/deprotection procedures, and its application to the

synthesis of a pheromone)
IT 22054-15-5P 124388-99-4P 479206-93-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(a shotgun one-pot process catalyzed by ~~Lewis~~
~~acids~~ and distannoxane for aldehyde allylation and
primary alc. acetylation of a ω -hydroxy alkanal without
protection/deprotection procedures, and its application to the
synthesis of a pheromone)
IT 112-14-1P 50767-78-7P 77383-04-1P, 1-Dodecen-4-ol
~~91743-86-1P~~ 479206-88-7P 479206-89-8P,
11-Dodecene-1,9-diol 479206-90-1P 479206-91-2P 479206-92-3P
479206-94-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(a shotgun one-pot process catalyzed by ~~Lewis~~
~~acids~~ and distannoxane for aldehyde allylation and
primary alc. acetylation of a ω -hydroxy alkanal without
protection/deprotection procedures, and its application to the
synthesis of a pheromone)
REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L44 ANSWER 8 OF 17 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2000:776693 HCAPLUS Full-text

DOCUMENT NUMBER: 134:71936

TITLE: Living coupling reaction in living cationic
polymerization. 4. Synthesis of telechelic
polyisobutylenes using bis-furanyl derivatives
as coupling agents

AUTHOR(S): Hadjikyriacou, Savvas; Faust, Rudolf; Suzuki,
Toshio

CORPORATE SOURCE: Polymer Science Program Department of Chemistry,
University of Massachusetts-Lowell, Lowell, MA,
01854, USA

SOURCE: Journal of Macromolecular Science, Pure and
Applied Chemistry (2000), A37(11), 1333-1352
CODEN: JSPCE6; ISSN: 1060-1325

PUBLISHER: Marcel Dekker, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

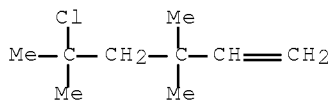
AB The synthesis of telechelic polyisobutylenes (PIB) by coupling with 2,5-bis-(2-furyl-2-propyl)furan is described. Hydroxyl telechelic PIB with controlled mol. weight was obtained by haloboration-initiation of isobutylene (IB) with a BCl₃/BBr₃ mixture, followed by coupling of the living ends and oxidation of the (CH₃O)₂B- end groups with H₂O₂ in alkaline THF. Vinyl telechelic PIBs were prepared by coupling living PIB obtained using a novel vinyl functional initiator 5-chloro-3,3,5-trimethyl-1-hexene in conjunction with TiCl₄ in hexanes/CH₃Cl (60/40, volume/volume) at -80°C. Chlorosilyl telechelic PIBs were synthesized for the first time by employing chlorosilyl functional initiators
(1-chloro-1-methyl)ethyl-3-(1-dichloro-methylsilyl- methyl)ethylbenzene and 1-methyldichlorosilyl-3,3,5-trimethyl-5- chloro-hexane in conjunction with TiCl₄ in hexanes/CH₃Cl (60/40, volume/volume) at -80°C. After coupling, the dichlorosilyl groups were converted to dimethoxysilyl groups upon quenching with methanol. The bis-dimethoxysilyl telechelic PIBs were crosslinked by moisture at room temperature in the presence of catalytic amts. of tin(II) 2-ethyl-hexanoate. Extraction of the crosslinked samples with hexanes resulted in negligible soluble content, indicating essentially quant. crosslinking.
IT ~~69078-25-7P~~, 5-Chloro-3,3,5-trimethyl-1-hexene

RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(polymerization catalyst; synthesis of telechelic polyisobutylenes using bis-furanyl derivs. as coupling agents)

RN 69078-25-7 HCAPLUS

CN 1-Hexene, 5-chloro-3,3,5-trimethyl- (CA INDEX NAME)



CC 35-3 (Chemistry of Synthetic High Polymers)

IT 69078-25-7P, 5-Chloro-3,3,5-trimethyl-1-hexene

RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(polymerization catalyst; synthesis of telechelic polyisobutylenes using bis-furanyl derivs. as coupling agents)

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L44 ANSWER 9 OF 17 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1999:719035 HCAPLUS Full-text

DOCUMENT NUMBER: 131:337525

TITLE: Silyl-functional initiator for living cationic polymerization

INVENTOR(S): Faust, Rudolf; Hadjikyriacou, Savvas E.; Suzuki, Toshio

PATENT ASSIGNEE(S): University of Massachusetts, USA; Dow Corning Corporation

SOURCE: U.S., 7 pp.
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
US 5981785	A	19991109	US 1998-204900	19981203
WO 2000032609	A1	20000608	WO 1999-US27461	19991119

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF,

BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
 PRIORITY APPLN. INFO.: US 1998-204900 A

199812
 03

OTHER SOURCE(S): MARPAT 131:337525

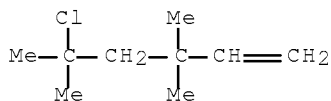
AB Haloorganosilane initiators which can be reacted with cationically polymerizable monomers in the presence of a Lewis acid to provide living polymers having a silyl-functional head group have the structure $\text{XaR}_3\text{-aSiZCR}_2\text{R}_1$, where X is halogen, R is independently selected from alkyl groups having 1-10 carbon atoms or aryl groups having 6-10 carbon atoms, Z is a divalent aliphatic hydrocarbon group having at least 3 carbon atoms, R₁ is halogen, alkoxy, acyloxy or hydroxy, and a is 1, 2, or 3. Thus, 3,3,5-trimethyl-5-chloro-1-hexene was treated with dichloromethylsilane in the presence of a platinum-divinyldisiloxane complex catalyst to give a hydrosilated product which was rehydrochlorinated by treatment with HCl to give 1-methyldichlorosilyl-3,3,5-trimethyl-5-chlorohexane (I). Isobutylene was polymerized in a MeCl/hexane solvent system using I, titanium tetrachloride, and 2,6-di-tert-butylpyridine as catalysts. The resulting cationic living polymer having number-average mol. weight 3200 was coupled using 2,5-bis(2-furylpropyl)furan as the coupling agent to give a polymer which on treatment with MeOH gave a methoxysilyl-functional telechelic polyisobutylene (II) having number-average mol. weight 5300. II was cured by exposure to moisture in the presence of tin octoate and could be used in the formulation of sealants, adhesives and coatings.

IT 69078-25-7

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reactant; in preparation of haloorganosilane initiators for living cationic polymerization of vinyl monomers)

RN 69078-25-7 HCAPLUS

CN 1-Hexene, 5-chloro-3,3,5-trimethyl- (CA INDEX NAME)



IC ICM C07F007-12

INCL 556488000

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 39

ST haloorganosilane initiator living cationic polymn; isobutylene living cationic polymn silane catalyst; moisture curable polyisobutylene

IT Polymerization

Polymerization catalysts

(cationic, living; reactive silyl-functional initiators for living cationic polymerization of vinyl monomers and preparation of

polymers

containing hydrolyzable silyl end groups)

IT Hydrosilylation catalysts

(platinum organosiloxane complex; for preparation of silyl-functional initiators for living cationic polymerization of vinyl compds.)

IT 7440-06-4D, Platinum, complex with divinyldisiloxane, uses 30110-75-9D, Divinyldisiloxane, platinum complex

RL: CAT (Catalyst use); USES (Uses)

(hydrosilylation catalyst; for preparation of

silyl-functional initiators for living cationic polymerization of vinyl compds.)

IT 249905-14-4P
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (polymerization catalyst; in polymerization of isobutylene)

IT 249905-12-2P
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (polymerization catalyst; reactive silyl-functional initiators for living cationic polymerization of vinyl monomers and preparation of polymers containing hydrolyzable silyl end groups)

IT 75-54-7, Dichloromethylsilane 78-79-5, Isoprene, reactions
~~69078-25-7~~
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reactant; in preparation of haloorganosilane initiators for living cationic polymerization of vinyl monomers)

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L44 ANSWER 10 OF 17 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1998:801484 HCAPLUS Full-text

DOCUMENT NUMBER: 130:167901

TITLE: Relative reactivities of acetals and ethers
 under Friedel-Crafts conditions

AUTHOR(S): Mayr, Herbert; Dau-Schmidt, Jan-Peter

CORPORATE SOURCE: Institut fur Organische Chemie, Technische
 Hochschule Darmstadt, Darmstadt, 64287, Germany

SOURCE: Chemische Berichte (1994), 127(1), 213-217
 CODEN: CHBEAM; ISSN: 0009-2940

PUBLISHER: VCH

DOCUMENT TYPE: Journal

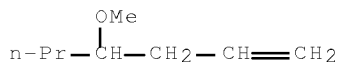
LANGUAGE: English

AB Competition expts. have been performed to determine the relative reactivities of acetals and ethers toward allyltrimethylsilane in the presence of catalytic amts. of BF₃·OEt₂. It is found that acetals R-CH(OMe)₂ and their phenylogous p-anisyl ethers R-CH(p-MeOC₆H₄)(OMe) show very little differences in reactivity. The reactivity scales are employed to rationalize the results of Lewis acid-catalyzed addns. of acetals and ethers to CC double bonds.

IT 54267-82-2P, 4-Methoxy-1-heptene
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (relative reactivities of acetals and ethers under Friedel-Crafts conditions)

RN 54267-82-2 HCAPLUS

CN 1-Heptene, 4-methoxy- (CA INDEX NAME)



CC 22-4 (Physical Organic Chemistry)

IT Friedel-Crafts reaction

Friedel-Crafts reaction catalysts

(relative reactivities of acetals and ethers under Friedel-Crafts conditions)

IT 109-63-7, Boron trifluoride etherate 21512-92-5

RL: CAT (Catalyst use); USES (Uses)

(catalyst; relative reactivities of acetals and ethers
under Friedel-Crafts conditions)

IT 54267-82-2P, 4-Methoxy-1-heptene 71104-84-2P
111874-57-8P 125310-48-7P 220331-49-7P 220331-50-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(relative reactivities of acetals and ethers under Friedel-Crafts
conditions)

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L44 ANSWER 11 OF 17 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1997:714668 HCAPLUS Full-text

DOCUMENT NUMBER: 128:12964

ORIGINAL REFERENCE NO.: 128:2513a,2516a

TITLE: Bidentate organoaluminum Lewis
acid for selective activation of
carbonyl over acetal functionality:
chemoselective functionalization

AUTHOR(S): Ooi, Takashi; Tayama, Eiji; Takahashi, Makoto;
Maruoka, Keiji

CORPORATE SOURCE: Department of Chemistry, Graduate School of
Science, Hokkaido University, Sapporo, 060,
Japan

SOURCE: Tetrahedron Letters (1997), 38(42), 7403-7406
CODEN: TELEAY; ISSN: 0040-4039

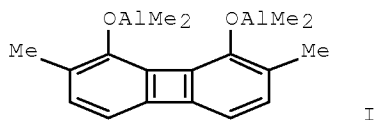
PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 128:12964

GI



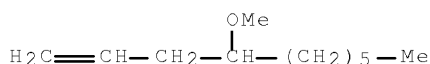
AB Chemoselective functionalization of carbonyl compds. over acetals has been
achieved by bidentate organoaluminum Lewis acid based on the selective double
electrophilic activation of carbonyls. E.g., Mukaiyama aldol reaction of
PhCHO and PhCH(OMe)₂ with 1-(trimethylsiloxy)-1-cyclohexene in presence of
organoaluminum Lewis acid I gave predominantly the product resulting from
reaction of PhCHO.

IT 153864-63-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
(bidentate organoaluminum Lewis acid for
selective activation of carbonyl over acetal groups)

RN 153864-63-2 HCAPLUS

CN 1-Decene, 4-methoxy- (CA INDEX NAME)



CC 21-2 (General Organic Chemistry)
ST organoaluminum Lewis acid catalyst
carbonyl reaction
IT Aldol condensation
Aldol condensation catalysts
(Mukaiyama; bidentate organoaluminum Lewis acid
for selective activation of carbonyl over acetal groups)
IT Acetals
Carbonyl compounds (organic), reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(bidentate organoaluminum Lewis acid for
selective activation of carbonyl over acetal groups)
IT 184020-59-5P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP
(Preparation); USES (Uses)
(bidentate organoaluminum Lewis acid for
selective activation of carbonyl over acetal groups)
IT 75-24-1, Trimethylaluminum 98-86-2, Acetophenone, reactions
100-52-7, Benzaldehyde, reactions 112-12-9, Methyl nonyl ketone
124-13-0, Octanal 1125-88-8, Benzaldehyde dimethyl acetal
2043-61-0, Cyclohexanecarboxaldehyde 4316-35-2, Acetophenone
dimethyl acetal 6651-36-1, 1-(Trimethylsiloxy)-1-cyclohexene
10022-28-3 18231-08-8, Cyclohexanecarboxaldehyde dimethyl acetal
24850-33-7, Allyltributyltin 31469-15-5 68298-50-0 98991-01-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(bidentate organoaluminum Lewis acid for
selective activation of carbonyl over acetal groups)
IT 936-58-3P 22039-97-0P 35022-33-4P 36971-14-9P, 1-Decen-4-ol
54322-88-2P 56072-25-4P 61841-05-2P 85670-57-1P 94123-64-5P
113812-36-5P ~~153864-63-2P~~ 175732-06-6P 198979-20-3P
198979-21-4P 198979-22-5P 198979-23-6P 198979-24-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(bidentate organoaluminum Lewis acid for
selective activation of carbonyl over acetal groups)
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L44 ANSWER 12 OF 17 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1989:155017 HCAPLUS Full-text
DOCUMENT NUMBER: 110:155017
ORIGINAL REFERENCE NO.: 110:25659a,25662a
TITLE: Initiators and process for living polymerization
of olefins to end-functionalized polymers
INVENTOR(S): Kennedy, Joseph Paul; Mishra, Munmaya Kumar
PATENT ASSIGNEE(S): USA
SOURCE: Eur. Pat. Appl., 34 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
EP 265053	A2	19880427	EP 1987-307508	198708 25

EP 265053 A3 19900829
 EP 265053 B1 19961023
 R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE
 CA 1338520 C 19960813 CA 1987-545335

198708
 25

AT 144542 T 19961115 AT 1987-307508

198708
 25

JP 01062308 A 19890308 JP 1987-216542

198709
 01

JP 2707086 B2 19980128
 US 4929683 A 19900529 US 1988-173049

198803
 28

US 5066730 A 19911119 US 1990-500771

199003
 28

PRIORITY APPLN. INFO.: US 1986-899655

A
 198608
 25

US 1988-173049

A3
 198803
 28

AB The title living vinyl polymers, having specific end groups and a wide range of mol. wts., are prepared by cationic living polymerization of vinyl monomers [e.g., isobutylene (I) or styrene] in the presence of complexes of organic ethers and Lewis acids comprising BCl_3 , AlCl_3 , SnCl_4 , TiCl_4 , SbF_5 , FeCl_3 , ZnCl_2 , and VC14 . Cumyl Me ether (II) $7.7 + 10^{-2}$, I 1.17, and BCl_3 0.37 mol/L were stirred in 20 mL CH_2Cl_2 at -30° for 0.5 h to give a I polymer terminated with $\text{C}_6\text{H}_5\text{C}(\text{CH}_3)_2$ and Cl and having number-average mol. weight (M_n) 1500, weight-average mol. weight M_w 5000, and M_n/M_w 3.3. A polymer having M_n 13,700; M_w 30,000, and M_n/M_w 2.2 was obtained when $7.4 + 10^{-3}$ mol/L II was used.

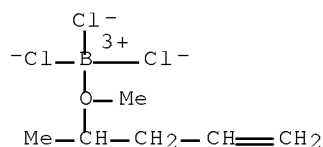
IT 119886-65-6

RL: USES (Uses)

(initiator, for preparation of cationic living polymer systems)

RN 119886-65-6 HCAPLUS

CN Boron, trichloro(4-methoxy-1-pentene)-, (T-4)- (CA INDEX NAME)



IC ICM C08F010-00

ICS C08F004-06

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 67

ST ether trichloroboron complex polyisobutylene initiator; boron trichloro ether complex initiator; cationic polymn Lewis acid ether complex; chlorine terminated polyisobutylene; catalyst living polymn isobutylene; styrene living polymn

- catalyst; mol wt control polyisobutylene catalyst;
polydispersity polyisobutylene ether Lewis acid;
chain transfer agent polyisobutylene
- IT Polymerization catalysts
(ether-Lewis acid compds., for preparation of
living cationic polymer systems)
- IT Polymerization
(cationic, living, of olefins, ether-Lewis acid
compds. for)
- IT Ethers, compounds
RL: USES (Uses)
(compds., with Lewis acids, initiators, for
living cationic polymerization of olefins)
- IT Lewis acids
RL: USES (Uses)
(compds., with ethers, initiators, for living cationic polymerization of
olefins)
- IT Polymers, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(telechelic, manufacture of, having low polydispersity, Lewis
acid-ether compound initiators for)
- IT 58286-97-8 119865-82-6 119865-83-7 119865-84-8 119886-47-4
119886-48-5 119886-49-6 119886-50-9 119886-51-0 119886-52-1
119886-53-2 119886-54-3 119886-55-4 119886-56-5 119886-57-6
119886-58-7 119886-59-8 119886-60-1 119886-61-2 119886-62-3
119886-63-4 119886-64-5 ~~119886-65-6~~ 119886-66-7
119886-67-8 119886-68-9 119886-69-0 119886-70-3 119886-71-4
119886-72-5
RL: USES (Uses)
(initiator, for preparation of cationic living polymer systems)
- IT 9010-85-9P
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, with low polydispersity, Lewis acid
-ether compound polymerization initiators for)
- IT 9003-27-4DP, Polyisobutylene, chlorine and tertiary
hydrocarbyl-terminated 9003-53-6DP, Polystyrene, chlorine and
tertiary hydrocarbyl-terminated
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, with low polydispersity, Lewis acid
-ether complex polymerization initiators for)

L44 ANSWER 13 OF 17 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1988:509927 HCAPLUS Full-text

DOCUMENT NUMBER: 109:109927

ORIGINAL REFERENCE NO.: 109:18303a,18306a

TITLE: Methoxy(phenylthio)methane as an ambi-equivalent
of a methoxy- or (phenylthio)methylene
1,1-dipole

AUTHOR(S): Sato, Tsuneo; Okura, Shuji; Otera, Junzo;
Nozaki, Hitoshi

CORPORATE SOURCE: Dep. Appl. Chem., Okayama Univ. Sci., Okayama,
700, Japan

SOURCE: Tetrahedron Letters (1987), 28(50), 6299-302

CODEN: TELEAY; ISSN: 0040-4039

DOCUMENT TYPE: Journal

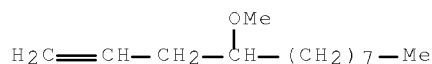
LANGUAGE: English

OTHER SOURCE(S): CASREACT 109:109927

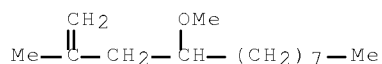
AB MeOCHRSPh [R = (CH₂)₈H, (CH₂)₈OSiMe₂CMe₃, CH₂CH:CMe₂, Ph], prepared by
alkylation of MeOCH₂SPh, are allylated by R₁CR₂:CHR₃CH₂SnBu₃ (R₁-R₃ = H; R₁ =
R₂ = H, R₃ = Me; R₁ = R₂ = Me, R₃ = H; R₁ = Me, R₂ = R₃ = H) in the presence

of BF₃·OEt₂ to give almost entirely MeOCHRCR₁R₂CR₃:CH₂. In the presence of TiCl₄, however, the product is almost entirely PhSCHRCR₁R₂CR₃:CH₂.

IT 116204-91-2P, 4-Methoxy-1-dodecene 116204-93-4P,
4-Methoxy-2-methyl-1-dodecene
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 116204-91-2 HCAPLUS
CN 1-Dodecene, 4-methoxy- (CA INDEX NAME)



RN 116204-93-4 HCAPLUS
CN 1-Dodecene, 4-methoxy-2-methyl- (CA INDEX NAME)



CC 25-9 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 23
ST allylation methoxyphenylthioalkane titanium catalyst
regiochem; allyltin allylation methoxyphenylthioalkane regiochem;
boron trifluoride catalyst allylation
methoxyphenylthioalkane; homoallyl methyl ether; phenyl homoallyl
sulfide; alkene methoxy; phenylthioalkene
IT Regiochemistry
(of allylation of methoxy(phenylthio)alkanes with allyltin
reagents, Lewis acid-promoted)
IT Allylation
(regioselective, of methoxy(phenylthio)alkanes with allyltin
reagents, Lewis acid-promoted)
IT 7695-69-4, Benzaldehyde bis(phenylthio)acetal
RL: RCT (Reactant); RACT (Reactant or reagent)
(allylation of, with allyltributyltin, Lewis
acid-promoted regioselective)
IT 762-72-1, Allyl trimethylsilane
RL: RCT (Reactant); RACT (Reactant or reagent)
(allylation of, with methoxy(phenylthio)nonane, Lewis
acid-promoted regioselective)
IT 35998-93-7 53911-92-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(allylation with, of methoxy(phenylthio)alkane, Lewis
acid-promoted regioselective)
IT 24850-33-7, Allyl tributyltin
RL: RCT (Reactant); RACT (Reactant or reagent)
(allylation with, of methoxy(phenylthio)alkanes, Lewis
acid-promoted regioselective)
IT 67883-62-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(allylation with, of methoxy(phenylthio)nonane, Lewis
acid-promoted regioselective)
IT 99054-47-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and allylation and propargylation of, with tin reagents,

Lewis acid-promoted regioselective)

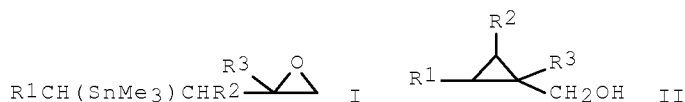
IT 13865-07-1P 116204-90-1P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (preparation and allylation of, with allyltin reagents, Lewis
 acid-promoted regioselective)

IT 116204-89-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (preparation and allylation of, with allyltributyltin, Lewis
 acid-promoted regioselective)

IT 21213-27-4P 22039-97-0P 50767-78-7P,
 (E)-1-Acetoxy-9,11-dodecadiene 54905-16-7P 92737-75-2P
 92737-76-3P 116204-91-2P, 4-Methoxy-1-dodecene
 116204-92-3P, 4-(Phenylthio)-1-dodecene 116204-93-4P,
 4-Methoxy-2-methyl-1-dodecene 116204-94-5P,
 2-Methyl-4-(phenylthio)-1-dodecene 116204-95-6P,
 4-Methoxy-1-dodecyne 116204-96-7P, 4-(Phenylthio)-1-dodecyne
 116204-97-8P 116204-99-0P, 5-Methoxy-2-methyl-2,7-octadiene
 116205-00-6P, 2-Methyl-5-(phenylthio)-2,7-octadiene 116205-01-7P,
 4-Methoxy-3,3,7-trimethyl-1,6-octadiene 116205-02-8P,
 4-(Phenylthio)-3,3,7-trimethyl-1,6-octadiene 116205-03-9P
 116205-04-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

IT 53915-69-8, Allenyl tributyltin
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (propargylation with, of methoxy(phenylthio)nonane, Lewis
 acid-promoted regioselective)

L44 ANSWER 14 OF 17 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1988:111834 HCAPLUS Full-text
 DOCUMENT NUMBER: 108:111834
 ORIGINAL REFERENCE NO.: 108:18297a,18300a
 TITLE: Lewis acid-induced reaction
 of γ,δ -epoxy tin compounds
 AUTHOR(S): Sato, Tadashi; Watanabe, Masami; Murayama,
 Eigoro
 CORPORATE SOURCE: Dep. Appl. Chem., Waseda Univ., Tokyo, 160,
 Japan
 SOURCE: Synthetic Communications (1987), 17(7), 781-8
 CODEN: SYNCAV; ISSN: 0039-7911
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 108:111834
 GI

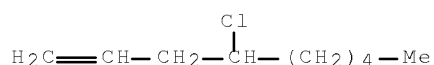


AB (Stannylethyl)oxiranes I (R1 = alkyl, H; R2 = H, Me; R3 = H, Me) were treated
 with BF₃·Et₂O in CH₂Cl₂ to give cyclopropanemethanols II.
 IT 113235-26-0P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 113235-26-0 HCAPLUS

CN 1-Nonene, 4-chloro- (CA INDEX NAME)



CC 24-2 (Alicyclic Compounds)

Section cross-reference(s): 27, 29

ST cyclopropanemethanol alkyl; oxirane stannylethyl rearrangement
catalyst; rearrangement stannylethyloxirane catalyst

IT Rearrangement catalysts

(boron fluoride etherate and titanium tetrafluoride, for
[(trimethylstannyl)ethyl]oxiranes)

IT 109-63-7, Boron trifluoride etherate 7550-45-0, uses and
miscellaneous

RL: CAT (Catalyst use); USES (Uses)
(catalyst, for rearrangement of
[(trimethylstannyl)ethyl]oxiranes)

IT 113235-13-5P

RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(formation and rearrangement of, catalyst for)

IT 113235-11-3P 113235-12-4P 113235-14-6P 113235-15-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(preparation and rearrangement of, catalysts for)

IT 2746-14-7P 21003-35-0P 21003-36-1P 26001-59-2P 113235-16-8P
113235-17-9P 113235-18-0P 113235-22-6P 113235-23-7P
113235-24-8P 113235-25-9P ~~113235-26-0P~~ 113235-27-1P
113301-18-1P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

IT 113235-19-1 113235-20-4 113235-21-5

RL: RCT (Reactant); RACT (Reactant or reagent)
(rearrangement of, by (phenylthio)silane derivative,
catalysts for)

L44 ANSWER 15 OF 17 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1983:438666 HCAPLUS Full-text

DOCUMENT NUMBER: 99:38666

ORIGINAL REFERENCE NO.: 99:6085a,6088a

TITLE: Chemistry of organosilicon compounds - 165.
2-(Trimethylsilylmethyl)-1,3-butadiene - a
versatile building block for terpene synthesis
AUTHOR(S): Sakurai, Hideki; Hosomi, Akira; Saito, Masaki;
Sasaki, Koshi; Iguchi, Hirokazu; Sasaki,
Junichi; Araki, Yoshitaka

CORPORATE SOURCE: Dep. Chem., Tohoku Univ., Sendai, 980, Japan

SOURCE: Tetrahedron (1983), 39(6), 883-94

CODEN: TETRAB; ISSN: 0040-4020

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Me₃SiCH₂C(:CH₂)CH:CH₂, prepared by Grignard coupling of Me₃SiCH₂Cl with
CH₂:C(Cl)CH:CH₂, isoprenylated acid chlorides, aldehydes, ketones, and acetals
in the presence of Lewis acids and underwent Diels-Alder reaction with

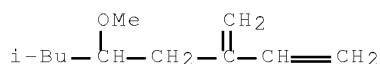
dienophiles with high regiospecificity to give synthons for limonene, δ -terpineol, isobisabolene, etc.

IT 75243-70-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 75243-70-8 HCAPLUS

CN 1-Octene, 5-methoxy-7-methyl-3-methylene- (CA INDEX NAME)



CC 30-15 (Terpenes and Terpenoids)

IT 14264-16-5 14647-23-5 15629-92-2

RL: CAT (Catalyst use); USES (Uses)
(catalysts, for coupling of silylmethylmagnesium
chloride with chloroprene)

IT 539-70-8P 6090-09-1P 6493-78-3P 6493-79-4P 14314-21-7P
14434-41-4P 17023-58-4P 19860-68-5P 41723-53-9P 70901-65-4P
70901-68-7P 70901-69-8P 70901-71-2P 70901-72-3P 71092-48-3P
71092-49-4P 71092-52-9P 71092-54-1P 74043-01-9P 74043-02-0P
74043-04-2P 74043-05-3P 74043-06-4P 74043-07-5P 74043-10-0P
74043-11-1P 74043-12-2P 74043-13-3P 74043-14-4P 74043-15-5P
74043-16-6P 75243-70-8P 75243-71-9P 82096-09-1P
82096-10-4P 82096-12-6P 82096-13-7P 86361-18-4P 86361-19-5P
86361-20-8P 86361-23-1P 86361-25-3P 86361-44-6P 86372-75-0P
86372-76-1P 86372-77-2P 86372-78-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

L44 ANSWER 16 OF 17 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1979:457185 HCAPLUS Full-text

DOCUMENT NUMBER: 91:57185

ORIGINAL REFERENCE NO.: 91:9275a,9278a

TITLE: Chemistry of organosilicon compounds. 120.
2-Trimethylsilylmethyl-1,3-butadiene as a novel
reagent for isoprenylation. New access to
ipsenol and ipsdienol, pheromones of *Ips*
paraconfusus

AUTHOR(S): Hosomi, Akira; Saito, Masaki; Sakurai, Hideki

CORPORATE SOURCE: Dep. Chem., Tohoku Univ., Sendai, Japan

SOURCE: Tetrahedron Letters (1979), (5), 429-32

CODEN: TELEAY; ISSN: 0040-4039

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 91:57185

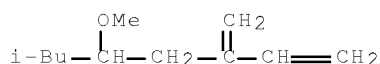
AB CH₂:C(CH₂SiMe₃)CH:CH₂ (I) was prepared (91%) from CH₂:CClCH:CH₂ by treatment with Me₃SiCH₂MgCl in Et₂O (reflux, 6 h) in the presence of Ni[Ph₂P(CH₂)₃PPh₂]Cl₂ followed by hydrolysis. I reacted with aliphatic and aromatic acetals, acid chlorides, carbonyl compds., and other electrophiles in the presence of a Lewis acid to give isoprenylated products. E.g., I on sequential treatment with Me₂CHCH₂COCl (TiCl₄, CH₂Cl₂) and (Me₂CHCH₂)₂AlH (C₆H₆) gave 62% (±)-ipsenol. I with Me₂C:CHCOCl (TiCl₄, CH₂Cl₂, 10 min) gave 71% myrcenone which on similar reduction gave 75% (±)-ipsdienol.

IT 75243-70-8P 75243-73-1P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

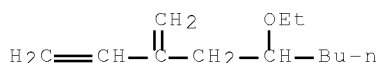
RN 75243-70-8 HCAPLUS

CN 1-Octene, 5-methoxy-7-methyl-3-methylene- (CA INDEX NAME)



RN 75243-73-1 HCAPLUS

CN 1-Nonene, 5-ethoxy-3-methylene- (CA INDEX NAME)



CC 30-10 (Terpenoids)

Section cross-reference(s): 5, 23, 25, 29

IT Grignard reaction catalysts

(nickel dichloro phosphines, for (chloromethyl)trimethylsilane with chloroprene)

IT Alkylation catalysts

(isoprenylation, Lewis acids, for electrophiles by isoprenylsilane)

IT 14264-16-5 14647-23-5 15629-92-2

RL: CAT (Catalyst use); USES (Uses)

(catalyst, for Grignard reaction of

(chloromethyl)trimethylsilane with chlorobutadiene)

IT 7446-70-0, uses and miscellaneous 7550-45-0, uses and miscellaneous

RL: CAT (Catalyst use); USES (Uses)

(catalyst, for isoprenylation of electrophiles by isoprenylsilane)

IT 70901-65-4P 70901-68-7P 70901-69-8P 70901-71-2P 70901-72-3P

~~75243-70-8P~~ ~~75243-71-9P~~ ~~75243-73-1P~~

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)

L44 ANSWER 17 OF 17 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1965:446640 HCAPLUS Full-text

DOCUMENT NUMBER: 63:46640

ORIGINAL REFERENCE NO.: 63:8497h,8498a-b

TITLE: Copolymerization of α -olefins with ω -halo α -olefins by use of Ziegler catalysts

AUTHOR(S): Bacskai, R.

CORPORATE SOURCE: California Res. Corp., Richmond

SOURCE: Journal of Polymer Science, Part A: General Papers (1965), 3(7), 2491-510
CODEN: JPYAAK; ISSN: 0449-2951

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The copolymerization of α -olefins with 5-chloro-1-pentene, 6-chloro-1-hexene, 8-chloro-1-octene, 7-chloro-1-octene, 3-bromo-1-octene, 4-bromo-1-butene, 5-bromo-1-pentene, 6-bromo-1-hexene, and 11-chloro-1-undecene by use of Ziegler catalysts has been investigated. ω -Halo α -olefins deactivate the catalyst, thus resulting in low copolymer yield and reduced mol. weight The deactivation is caused by H halide formation which is greatly facilitated in

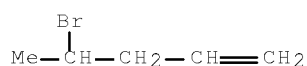
the case of the allyl halides and 6-halo-1-hexenes. The different degrees of deactivation were interpreted by considering the ease of carbonium ion formation from the various ω -halo α -olefins. The copolymer yields were considerably improved when a catalytic amount of a pyridine, Et₃N, or tetrahydrofuran was added to the polymerization system. It is proposed that the added Lewis base, by decreasing the Lewis acid character of the catalyst, suppresses the decomposition of the ω -halo α -olefin leading to H halide formation. Depending on the Ziegler catalyst employed, the copolymers of α -olefins and ω -halo α -olefins can be either crystalline or amorphous solids. The halogen, especially the Br in the copolymers, is reactive in nucleophilic substitution reactions. Reaction with amines gave polymers which could be dyed by acid dyes.

IT 31950-56-8

(Derived from data in the 7th Collective Formula Index
(1962-1966))

RN 31950-56-8 HCAPLUS

CN 1-Pentene, 4-bromo- (CA INDEX NAME)



CC 45 (Synthetic High Polymers)

IT Bases

(Lewis, catalysts from Al compds., TiCl₃ and, in
polymerization of ω -halo α -olefins with
 α -olefins)

IT Catalysts and Catalysis

(in polymerization, of ω -halo α -olefins with
 α -olefins, Ziegler)

IT Polymerization

(of ω -halo α -olefins with α -olefins, Ziegler
catalysts in)

IT Olefins

(polymerization of α -, with ω -halo α -olefins,
Ziegler catalysts in)

IT Olefins

(ω -halo α -, polymerization with α -olefins,
Ziegler catalysts in)

IT 4984-01-4 5026-95-9 31950-56-8 95347-52-7

(Derived from data in the 7th Collective Formula Index
(1962-1966))

IT 7705-07-9, Titanium chloride, TiCl₃

(catalysts from Al compds. and TiCl₃ in polymerization,
of ω -halo α -olefins with α -olefins)

IT 109-99-9, Furan, tetrahydro- 110-86-1, Pyridine 121-44-8,
Triethylamine

(catalysts from Al compds., TiCl₃ and, in
polymerization of ω -halo α -olefins with
 α -olefins)

IT 96-10-6, Aluminum, chlorodiethyl-

(catalysts from TiCl₃ and ClEt₂Al in polymerization, of
 ω -halo- α -olefins with α -olefins)

IT 97-93-8, Aluminum, triethyl-

(catalysts from TiCl₃ and, in polymerization of

ω -halo α -olefins with α -olefins)
 IT 1731-04-0, Zinc, bis(3-methylpentyl)-, (S)- 1854-19-9, Zinc,
 diisobutyl-
 (catalysts from TiCl₄ and, in stereoselective
 polymerization of 3,7-dimethyl-1-octene with
 (S)-3-methyl-1-pentene)
 IT 7550-45-0, Titanium chloride, TiCl₄
 (catalysts from Zn compds. and, in polymerization of
 3,7-dimethyl-1-octene with (S)-3-methyl-1-pentene)
 IT 7647-01-0P, Hydrochloric acid 10035-10-6P, Hydrobromic acid
 RL: PREP (Preparation)
 (formation of, in polymerization of ω -halo α -olefins
 with α -olefins with Ziegler catalysts)

=> d ibib abs hitstr hitind l32 1-5

L32 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2008:285253 HCAPLUS Full-text

DOCUMENT NUMBER: 148:309625

TITLE: Arborescent polymers based on at least one
 inimer and isoolefin that have been
 end-functionalized with a polymer or copolymer
 having a low glass transition temperature
 INVENTOR(S): Kaszas, Gabor; Puskas, Judit; Kulbaba, Kevin;
 Nelson, Robert Lloyd
 PATENT ASSIGNEE(S): The University of Akron, USA; Lanxess, Inc.
 SOURCE: PCT Int. Appl., 76pp.
 CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
WO 2008027589	A2	20080306	WO 2007-US19280	200708 31

WO 2008027589 A3 20080424

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
 CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG,
 ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS,
 JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU,
 LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO,
 NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL,
 SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN,
 ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,
 IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK,
 TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN,
 TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG,
 ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA

PRIORITY APPLN. INFO.: US 2006-841757P P

200609
01

AB Disclosed is an arborescent polymer comprising: an elastomeric polymer portion having two or more branching points, the arborescent elastomeric polymer block having a low glass transition temperature (Tg), and one or more end-functionalized portions, wherein one or more end-functionalized portions terminate at least one or two or more branches of the arborescent elastomeric polymer portion of the end-functionalized arborescent polymer. In one embodiment, the present invention relates to arborescent polymers formed from at least one inimer and at least one isoolefin that have been end-functionalized with a polymer or copolymer having a low glass transition temperature (Tg), and to a process for making such arborescent polymers. In another embodiment, the present invention relates to arborescent polymers formed from at least one inimer and at least one isoolefin that have been end-functionalized with less than about 5 weight% end blocks derived from a polymer or copolymer having a high glass transition temperature (Tg), and to a process for making such arborescent polymers. In an example of the invention 0.35 g of p-methoxycumylstyrene, 900 cm³ hexane, 600 cm³ Me chloride, 2 cm³ 2,6-di-tert-butylpyridine and 240 cm³ isobutylene were added to a reactor, polymerization was started at -95° by addition of 6 cm³ of TiCl₄, after 2 h of polymerization a mixture of 236 cm³ isoprene and 150 cm³ Me chloride, 150 cm³ hexane and a small amount of 2,6-di-tert-butylpyridine were added, and the polymerization was continued for another 30 min, before terminating it by adding methanol and NaOH to the mixture, after Me chloride evaporation, washing and isolation of the polymer, the dried weight of the polymer was 164.7 g. Polymers obtained in a similar way were mixed with carbon black, and optionally with a vulcanization agent, and tested as such and with the filler in comparison with regular butyl rubber.

IT 69078-25-7DP, arborescent polymers/synthetic rubbers

477350-05-3DP, arborescent polymers/synthetic rubbers

477350-08-6DP, arborescent polymers/synthetic rubbers

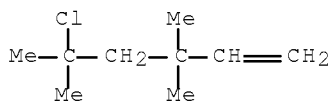
477350-12-2DP, arborescent polymers/synthetic rubbers

RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)

(arborescent polymers based on branched functionalized styrene inimer and isoolefins, like isobutylene)

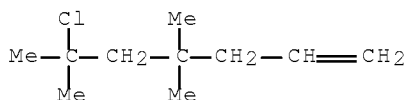
RN 69078-25-7 HCAPLUS

CN 1-Hexene, 5-chloro-3,3,5-trimethyl- (CA INDEX NAME)



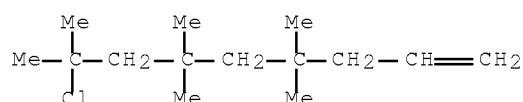
RN 477350-05-3 HCAPLUS

CN 1-Heptene, 6-chloro-4,4,6-trimethyl- (CA INDEX NAME)



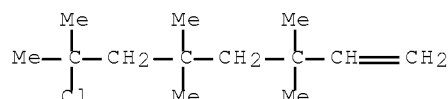
RN 477350-08-6 HCAPLUS

CN 1-Nonene, 8-chloro-4,4,6,6,8-pentamethyl- (CA INDEX NAME)



RN 477350-12-2 HCAPLUS

CN 1-Octene, 7-chloro-3,3,5,5,7-pentamethyl- (CA INDEX NAME)



CC 39-4 (Synthetic Elastomers and Natural Rubber)

IT Polymerization catalysts

(Lewis acid, halides; arborescent polymers

based on branched functionalized styrene inimer and isoolefins,
like isobutylene)

IT 78-79-5DP, arborescent polymers/synthetic rubbers 100-42-5DP,
arborescent polymers/synthetic rubbers 100-42-5DP, derivs.,
arborescent polymers/synthetic rubbers 106-99-0DP, 1,3-Butadiene,
arborescent polymers/synthetic rubbers 563-46-2DP, arborescent
polymers/synthetic rubbers 592-46-1DP, 2,4-Hexadiene, arborescent
polymers/synthetic rubbers 763-29-1DP, arborescent
polymers/synthetic rubbers 763-30-4DP, arborescent
polymers/synthetic rubbers 764-13-6DP, arborescent
polymers/synthetic rubbers 1118-58-7DP, arborescent
polymers/synthetic rubbers 2622-21-1DP, arborescent
polymers/synthetic rubbers 3049-88-5DP, arborescent
polymers/synthetic rubbers 4049-81-4DP, arborescent
polymers/synthetic rubbers 4549-74-0DP, arborescent
polymers/synthetic rubbers 5732-01-4DP, 1,3-Butadiene,
2-neopentyl-, arborescent polymers/synthetic rubbers 13643-06-6DP,
arborescent polymers/synthetic rubbers 25924-78-1DP, Piperyline,
arborescent polymers/synthetic rubbers 26519-91-5DP,
Methylcyclopentadiene, arborescent polymers/synthetic rubbers
29797-09-9DP, Cyclohexadiene, arborescent polymers/synthetic rubbers
57908-07-3DP, arborescent polymers/synthetic rubbers
~~69078-25-7DP~~, arborescent polymers/synthetic rubbers
140220-46-8DP, arborescent polymers/synthetic rubbers
140220-95-7DP, arborescent polymers/synthetic rubbers
173932-32-6DP, arborescent polymers/synthetic rubbers
477350-02-0DP, arborescent polymers/synthetic rubbers
477350-03-1DP, arborescent polymers/synthetic rubbers
477350-04-2DP, arborescent polymers/synthetic rubbers
~~477350-05-3DP~~, arborescent polymers/synthetic rubbers
477350-06-4DP, arborescent polymers/synthetic rubbers
477350-07-5DP, arborescent polymers/synthetic rubbers
~~477350-08-6DP~~, arborescent polymers/synthetic rubbers
477350-09-7DP, arborescent polymers/synthetic rubbers
477350-10-0DP, arborescent polymers/synthetic rubbers
477350-11-1DP, arborescent polymers/synthetic rubbers

477350-12-2DP, arborescent polymers/synthetic rubbers
 477350-13-3DP, arborescent polymers/synthetic rubbers
 RL: IMF (Industrial manufacture); PEP (Physical, engineering or
 chemical process); TEM (Technical or engineered material use); PREP
 (Preparation); PROC (Process); USES (Uses)
 (arborescent polymers based on branched functionalized styrene
 inimer and isoolefins, like isobutylene)

L32 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2003:825944 HCAPLUS Full-text

DOCUMENT NUMBER: 140:78789

TITLE: Saucy-Marbet ketonization in a continuous
 fixed-bed catalytic reactor

AUTHOR(S): Frauchiger, Simon; Baiker, Alfons

CORPORATE SOURCE: Institute for Chemical and Bioengineering, Swiss
 Federal Institute of Technology, ETH
 Hoenggerberg, Zurich, CH-8093, Switz.

SOURCE: Applied Catalysis, A: General (2003), 253(1),
 33-48

CODEN: ACAGE4; ISSN: 0926-860X

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 140:78789

AB Saucy-Marbet ketonizations of two unsatd. alcs., 3,7-dimethyl-oct-6-en-1-yn-3-ol (dehydrolinalool (DLL)) and 2-methyl-3-butyne-2-ol (MB) with 2-methoxypropene (MP), were studied in a continuous fixed-bed reactor containing a com. alkyl sulfonic acid polysiloxane catalyst, Deloxan ASP I/9, Degussa, a condensate of propyl-3-sulfonic acid-siloxane and SiO₂. The solid acid catalyst showed an initial transient period of several hours until stable operation was reached. Similar products were observed as in corresponding homogeneous catalytic reactions indicating similar reaction pathways. However, the heterogeneous catalytic reactions showed lower selectivity to the desired products than the corresponding homogeneous reactions reported in the literature. This outcome is traced to the complex transformation the unsatd. ether MP undergoes upon interaction with the surface of the solid acid catalyst. Furthermore, both Bronsted and Lewis-acid sites were present on the catalyst surface. These factors are the main reasons for the less efficient use of reactants observed in the heterogeneous catalytic reactions. A maximum yield of 54% to the desired product could be achieved in the heterogeneous catalytic ketonization of 3,7-dimethyl-oct-6-en-1-yn-3-ol and 45% for the 2-methyl-3-butyne-2-ol ketonization, resp. The studies indicate that the continuous ketonization in a fixed-bed reactor is feasible, but for tech. application, more selective acid catalysts are necessary to compete with the generally used homogeneous catalytic routes.

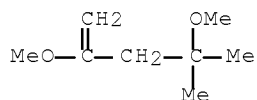
IT 191930-68-4P

RL: BYP (Byproduct); PREP (Preparation)

(conversion and selectivity of sulfonic acid polysiloxane/silica
 catalyst in Saucy-Marbet ketonizations of unsatd. alcs.
 in continuous fixed-bed reactor)

RN 191930-68-4 HCAPLUS

CN 1-Pentene, 2,4-dimethoxy-4-methyl- (CA INDEX NAME)



CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 67

ST unsatd alc ketonization methoxypropene heterogeneous catalytic
route; dimethyloctenynol ketonization alkylsulfonic acid
polysiloxane silica catalyst

IT Carbonylation catalysts
(Saucy-Marbet, heterogeneous; conversion and selectivity of
sulfonic acid polysiloxane/silica catalyst in
Saucy-Marbet ketonizations of unsatd. alcs. in continuous
fixed-bed reactor)

IT Carbonylation
(Saucy-Marbet; conversion and selectivity of sulfonic acid
polysiloxane/silica catalyst in Saucy-Marbet
ketonizations of unsatd. alcs. in continuous fixed-bed reactor)

IT Lewis acidity
(conversion and selectivity of sulfonic acid polysiloxane/silica
catalyst in Saucy-Marbet ketonizations of unsatd. alcs.
in continuous fixed-bed reactor)

IT Reactors
(fixed-bed; conversion and selectivity of sulfonic acid
polysiloxane/silica catalyst in Saucy-Marbet
ketonizations of unsatd. alcs. in continuous fixed-bed reactor)

IT Polysiloxanes, uses
RL: CAT (Catalyst use); USES (Uses)
(propyl-3-sulfonic acid containing; conversion and selectivity of
sulfonic acid polysiloxane/silica catalyst in
Saucy-Marbet ketonizations of unsatd. alcs. in continuous
fixed-bed reactor)

IT 77-76-9P, 2,2-Dimethoxypropane 141-10-6P 53654-62-9P
~~191930-68-4P~~
RL: BYP (Byproduct); PREP (Preparation)
(conversion and selectivity of sulfonic acid polysiloxane/silica
catalyst in Saucy-Marbet ketonizations of unsatd. alcs.
in continuous fixed-bed reactor)

IT 7631-86-9, Silica, uses 640735-92-8, Deloxan ASP-I 9
RL: CAT (Catalyst use); USES (Uses)
(conversion and selectivity of sulfonic acid polysiloxane/silica
catalyst in Saucy-Marbet ketonizations of unsatd. alcs.
in continuous fixed-bed reactor)

IT 115-19-5, 2-Methyl-3-butyn-2-ol 116-11-0 29171-20-8,
3,7-Dimethyl-oct-6-en-1-yn-3-ol
RL: EPR (Engineering process); PEP (Physical, engineering or
chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or
reagent)
(conversion and selectivity of sulfonic acid polysiloxane/silica
catalyst in Saucy-Marbet ketonizations of unsatd. alcs.
in continuous fixed-bed reactor)

IT 1604-28-0P, 6-Methyl-3,5-heptadien-2-one 13837-60-0P,
2-Ethynyl-tetrahydro-2,6,6-trimethyl-2H-pyran 16647-01-1P,
6-Methyl-4,5-heptadien-2-one 16647-05-5P,
6,10-Dimethyl-4,5,9-undecatrien-2-one
RL: IMF (Industrial manufacture); PREP (Preparation)
(conversion and selectivity of sulfonic acid polysiloxane/silica
catalyst in Saucy-Marbet ketonizations of unsatd. alcs.
in continuous fixed-bed reactor)

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L32 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1999:719035 HCAPLUS Full-text

DOCUMENT NUMBER: 131:337525

TITLE: Silyl-functional initiator for living cationic polymerization

INVENTOR(S): Faust, Rudolf; Hadjikyriacou, Savvas E.; Suzuki, Toshio

PATENT ASSIGNEE(S): University of Massachusetts, USA; Dow Corning Corporation

SOURCE: U.S., 7 pp.
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5981785	A	19991109	US 1998-204900	19981203
WO 2000032609	A1	20000608	WO 1999-US27461	19991119

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1998-204900 A 19981203

OTHER SOURCE(S): MARPAT 131:337525

AB Haloorganosilane initiators which can be reacted with cationically polymerizable monomers in the presence of a Lewis acid to provide living polymers having a silyl-functional head group have the structure $XaR_3-aSiZCR_2R_1$, where X is halogen, R is independently selected from alkyl groups having 1-10 carbon atoms or aryl groups having 6-10 carbon atoms, Z is a divalent aliphatic hydrocarbon group having at least 3 carbon atoms, R1 is halogen, alkoxy, acyloxy or hydroxy, and a is 1, 2, or 3. Thus, 3,3,5-trimethyl-5-chloro-1-hexene was treated with dichloromethylsilane in the presence of a platinum-divinyldimethyltetramethyldisiloxane complex catalyst to give a hydrosilated product which was rehydrochlorinated by treatment with HCl to give 1-methyldichlorosilyl-3,3,5-trimethyl-5-chlorohexane (I). Isobutylene was polymerized in a MeCl/hexane solvent system using I, titanium tetrachloride, and 2,6-di-tert-butylpyridine as catalysts. The resulting cationic living polymer having number-average mol. weight 3200 was coupled using 2,5-bis(2-furylpropyl)furan as the coupling agent to give a polymer which on treatment with MeOH gave a methoxysilyl-functional telechelic polyisobutylene (II) having number-average mol. weight 5300. II was cured by exposure to moisture in the presence of tin octoate and could be used in the formulation of sealants, adhesives and coatings.

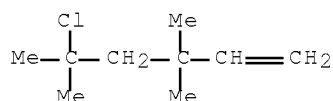
IT 69078-25-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(reactant; in preparation of haloorganosilane initiators for living cationic polymerization of vinyl monomers)

RN 69078-25-7 HCAPLUS

CN 1-Hexene, 5-chloro-3,3,5-trimethyl- (CA INDEX NAME)



IC ICM C07F007-12

INCL 556488000

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 39

ST haloorganosilane initiator living cationic polymn; isobutylene
living cationic polymn silane catalyst; moisture curable
polyisobutylene

IT Polymerization

Polymerization catalysts

(cationic, living; reactive silyl-functional initiators for

living cationic polymerization of vinyl monomers and preparation of
polymers

containing hydrolyzable silyl end groups)

IT Hydrosilylation catalysts

(platinum organosiloxane complex; for preparation of silyl-functional
initiators for living cationic polymerization of vinyl compds.)

IT 7440-06-4D, Platinum, complex with divinyltetramethyldisiloxane,
uses 30110-75-9D, Divinyltetramethyldisiloxane, platinum complex

RL: CAT (Catalyst use); USES (Uses)

(hydrosilylation catalyst; for preparation of

silyl-functional initiators for living cationic polymerization of vinyl
compds.)

IT 249905-14-4P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP
(Preparation); USES (Uses)

(polymerization catalyst; in polymerization of isobutylene)

IT 249905-12-2P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP
(Preparation); USES (Uses)

(polymerization catalyst; reactive silyl-functional initiators

for living cationic polymerization of vinyl monomers and preparation of
polymers containing hydrolyzable silyl end groups)

IT 75-54-7, Dichloromethylsilane 78-79-5, Isoprene, reactions
69078-25-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(reactant; in preparation of haloorganosilane initiators for living
cationic polymerization of vinyl monomers)

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L32 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1989:155017 HCAPLUS Full-text

DOCUMENT NUMBER: 110:155017

ORIGINAL REFERENCE NO.: 110:25659a,25662a

TITLE: Initiators and process for living polymerization
of olefins to end-functionalized polymers

March 20, 2009

10/559,779

41

INVENTOR(S): Kennedy, Joseph Paul; Mishra, Munmaya Kumar
 PATENT ASSIGNEE(S): USA
 SOURCE: Eur. Pat. Appl., 34 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

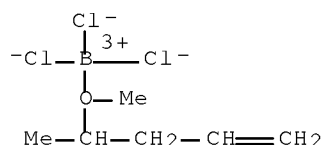
PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
EP 265053	A2	19880427	EP 1987-307508	198708 25
EP 265053	A3	19900829		
EP 265053	B1	19961023		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
CA 1338520	C	19960813	CA 1987-545335	198708 25
AT 144542	T	19961115	AT 1987-307508	198708 25
JP 01062308	A	19890308	JP 1987-216542	198709 01
JP 2707086	B2	19980128		
US 4929683	A	19900529	US 1988-173049	198803 28
US 5066730	A	19911119	US 1990-500771	199003 28
PRIORITY APPLN. INFO.:			US 1986-899655	A 198608 25
			US 1988-173049	A3 198803 28

AB The title living vinyl polymers, having specific end groups and a wide range of mol. wts., are prepared by cationic living polymerization of vinyl monomers [e.g., isobutylene (I) or styrene] in the presence of complexes of organic ethers and Lewis acids comprising BCl_3 , AlCl_3 , SnCl_4 , TiCl_4 , SbF_5 , FeCl_3 , ZnCl_2 , and VCl_4 . Cumyl Me ether (II) $7.7 + 10^{-2}$, I 1.17, and BCl_3 0.37 mol/L were stirred in 20 mL CH_2Cl_2 at -30° for 0.5 h to give a I polymer terminated with $\text{C}_6\text{H}_5\text{C}(\text{CH}_3)_2$ and Cl and having number-average mol. weight (Mn) 1500, weight-average mol. weight Mw 5000, and Mn/Mw 3.3. A polymer having Mn 13,700; Mw 30,000, and Mn/Mw 2.2 was obtained when $7.4 + 10^{-3}$ mol/L II was used.

IT 119886-65-6
 RL: USES (Uses)
 (initiator, for preparation of cationic living polymer systems)

RN 119886-65-6 HCAPLUS

CN Boron, trichloro(4-methoxy-1-pentene)-, (T-4)- (CA INDEX NAME)



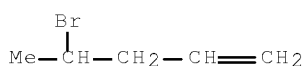
- IC ICM C08F010-00
ICS C08F004-06
- CC 35-3 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67
- ST ether trichloroboron complex polyisobutylene initiator; boron trichloro ether complex initiator; cationic polymn Lewis acid ether complex; chlorine terminated polyisobutylene; catalyst living polymn isobutylene; styrene living polymn catalyst; mol wt control polyisobutylene catalyst; polydispersity polyisobutylene ether Lewis acid; chain transfer agent polyisobutylene
- IT Polymerization catalysts
(ether-Lewis acid compds., for preparation of living cationic polymer systems)
- IT Polymerization
(cationic, living, of olefins, ether-Lewis acid compds. for)
- IT Ethers, compounds
RL: USES (Uses)
(compds., with Lewis acids, initiators, for living cationic polymerization of olefins)
- IT Lewis acids
RL: USES (Uses)
(compds., with ethers, initiators, for living cationic polymerization of olefins)
- IT Polymers, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(telechelic, manufacture of, having low polydispersity, Lewis acid-ether compound initiators for)
- IT 58286-97-8 119865-82-6 119865-83-7 119865-84-8 119886-47-4
119886-48-5 119886-49-6 119886-50-9 119886-51-0 119886-52-1
119886-53-2 119886-54-3 119886-55-4 119886-56-5 119886-57-6
119886-58-7 119886-59-8 119886-60-1 119886-61-2 119886-62-3
119886-63-4 119886-64-5 ~~119886-65-6~~ 119886-66-7
119886-67-8 119886-68-9 119886-69-0 119886-70-3 119886-71-4
119886-72-5
RL: USES (Uses)
(initiator, for preparation of cationic living polymer systems)
- IT 9010-85-9P
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, with low polydispersity, Lewis acid-ether compound polymerization initiators for)
- IT 9003-27-4DP, Polyisobutylene, chlorine and tertiary hydrocarbyl-terminated 9003-53-6DP, Polystyrene, chlorine and tertiary hydrocarbyl-terminated
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, with low polydispersity, Lewis acid-ether complex polymerization initiators for)

ORIGINAL REFERENCE NO.: 63:8497h,8498a-b
 TITLE: Copolymerization of α -olefins with
 ω -halo α -olefins by use of Ziegler
 catalysts
 AUTHOR(S): Bacskai, R.
 CORPORATE SOURCE: California Res. Corp., Richmond
 SOURCE: Journal of Polymer Science, Part A: General
 Papers (1965), 3(7), 2491-510
 CODEN: JPYAAK; ISSN: 0449-2951
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The copolymerization of α -olefins with 5-chloro-1-pentene, 6-chloro-1-hexene, 8-chloro-1-octene, 7-chloro-1-octene, 3-bromo-1-octene, 4-bromo-1-butene, 5-bromo-1-pentene, 6-bromo-1-hexene, and 11-chloro-1-undecene by use of Ziegler catalysts has been investigated. ω -Halo α -olefins deactivate the catalyst, thus resulting in low copolymer yield and reduced mol. weight. The deactivation is caused by H halide formation which is greatly facilitated in the case of the allyl halides and 6-halo-1-hexenes. The different degrees of deactivation were interpreted by considering the ease of carbonium ion formation from the various ω -halo α -olefins. The copolymer yields were considerably improved when a catalytic amount of a pyridine, Et₃N, or tetrahydrofuran was added to the polymerization system. It is proposed that the added Lewis base, by decreasing the Lewis acid character of the catalyst, suppresses the decomposition of the ω -halo α -olefin leading to H halide formation. Depending on the Ziegler catalyst employed, the copolymers of α -olefins and ω -halo α -olefins can be either crystalline or amorphous solids. The halogen, especially the Br in the copolymers, is reactive in nucleophilic substitution reactions. Reaction with amines gave polymers which could be dyed by acid dyes.

IT 31950-56-8
 (Derived from data in the 7th Collective Formula Index
 (1962-1966))

RN 31950-56-8 HCAPLUS
 CN 1-Pentene, 4-bromo- (CA INDEX NAME)



CC 45 (Synthetic High Polymers)
 IT Bases
 (Lewis, catalysts from Al compds., TiCl₃ and, in
 polymerization of ω -halo α -olefins with
 α -olefins)
 IT Catalysts and Catalysis
 (in polymerization, of ω -halo α -olefins with
 α -olefins, Ziegler)
 IT Polymerization
 (of ω -halo α -olefins with α -olefins, Ziegler
 catalysts in)
 IT Olefins
 (polymerization of α -, with ω -halo α -olefins,
 Ziegler catalysts in)
 IT Olefins
 (ω -halo α -, polymerization with α -olefins,

- Ziegler catalysts in)
- IT 4984-01-4 5026-95-9 31950-56-8 95347-52-7
(Derived from data in the 7th Collective Formula Index
(1962-1966))
- IT 7705-07-9, Titanium chloride, TiCl_3
(catalysts from Al compds. and TiCl_3 in polymerization,
of ω -halo α -olefins with α -olefins)
- IT 109-99-9, Furan, tetrahydro- 110-86-1, Pyridine 121-44-8,
Triethylamine
(catalysts from Al compds., TiCl_3 and, in
polymerization of ω -halo α -olefins with
 α -olefins)
- IT 96-10-6, Aluminum, chlorodiethyl-
(catalysts from TiCl_3 and ClEt_2Al in polymerization, of
 ω -halo- α -olefins with α -olefins)
- IT 97-93-8, Aluminum, triethyl-
(catalysts from TiCl_3 and, in polymerization of
 ω -halo α -olefins with α -olefins)
- IT 1731-04-0, Zinc, bis(3-methylpentyl)-, (S)- 1854-19-9, Zinc,
diisobutyl-
(catalysts from TiCl_4 and, in stereoselective
polymerization of 3,7-dimethyl-1-octene with
(S)-3-methyl-1-pentene)
- IT 7550-45-0, Titanium chloride, TiCl_4
(catalysts from Zn compds. and, in polymerization of
3,7-dimethyl-1-octene with (S)-3-methyl-1-pentene)
- IT 7647-01-0P, Hydrochloric acid 10035-10-6P, Hydrobromic acid
RL: PREP (Preparation)
(formation of, in polymerization of ω -halo α -olefins
with α -olefins with Ziegler catalysts)

=>